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# Service Manual

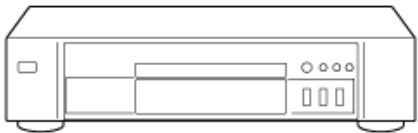
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ORDER NO.ODSD990201C1

B12

DVD Player

DVD-A112U/DVD-A115U/DVD-A120U/DVD-A120CA



## SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION
Power Source	AC 120V, 60Hz	Video Output	Output level: 1Vp-p (75Ω) Output connector Pin jack (1 system): DVD-A112U, A115U Output connector Pin jack (2 systems): DVD-A120U/CA
Power Consumption	15 W (approx. 1.0 W in STANDBY mode):		
Signal System	NTSC		
Disc Formats Supported	DVD, video CD, audio CD	Component Video Output	Y output level: 1 Vp-p (75Ω), green: DVD-A120U/CA P <sub>B</sub> output level: 0.7 Vp-p (75Ω), blue: DVD-A120U/CA P <sub>R</sub> output level: 0.7 Vp-p (75Ω), red: DVD-A120U/CA Output connector: Pin jack: DVD-A120U/CA
Weight	3.2 kg		
Dimensions (W × H × D)	430 × 99 × 268 mm (excluding protrusions):	Audio Output	Output level: 2 Vrms (1 kHz, 0 dB) Output connector: Pin jack (1 system): DVD-A112U, A115U Output connector: Pin jack (2 systems): DVD-A120U/CA
Operating Temperature Range	+5°C to +35°C		
Operating Humidity Range	5 % to 90 % (no condensation)	Digital Audio Signal Output Characteristics	(1) Frequency response: [DVD linear audio] 48 kHz sampling; 2 Hz to 22 kHz 96 kHz sampling; 2 Hz to 44 kHz [CD audio] 2 Hz to 20 kHz (EIAJ) (2) S/N ratio: [CD audio] 115 dB (EIAJ) (3) Dynamic range: [DVD linear audio] 103 dB
Discs Played	(1) DVD-video disc 12 cm single-sided, single-layer 12 cm single-sided, double-layer 12 cm double-sided, double-layer (one layer per side) 8 cm single-sided, single-layer 8 cm single-sided, double-layer		

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	8 cm double-sided, double-layer (one layer per side) (2) Compact disc (CD-DA, video CD) 12 cm disc 8 cm disc		[CD audio] 98 dB (EIAJ) (4) Total harmonic distortion: [CD audio] 0.0025 % (EIAJ)
		Digital Audio Output	Optical digital output: Optical connector Coaxial digital output: Pin jack: DVD-A120U/CA
S-Video Output (Separate YC Signal Output)	Y output level: 1 Vp-p (75 Ω) C output level: 0.286 Vp-p (75 Ω) Output connector: S terminal (1 system)	Pickup	Wave length: 665 nm Laser power: CLASS II
		Region Number	Region No. 1

Weight and dimensions shown are approximate.  
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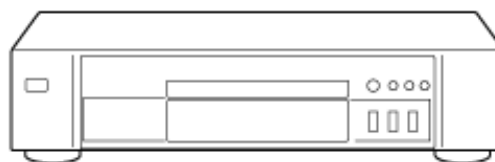
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DVD-A112U/DVD-A115U/DVD-A120U/DVD-A120CA



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Disc Formats Supported	DVD, video CD, audio CD	Component Video Output	Y output level: 1 Vp-p (75Ω), green: DVD-A120U/CA P <sub>B</sub> output level: 0.7 Vp-p (75Ω), blue: DVD-A120U/CA P <sub>R</sub> output level: 0.7 Vp-p (75Ω), red: DVD-A120U/CA Output connector: Pin jack: DVD-A120U/CA
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Operating Temperature Range	+5°C to +35°C		
Operating Humidity Range	5 % to 90 % (no condensation)		(1) Frequency response: [DVD linear audio]

Discs Played	(1) DVD-video disc 12 cm single-sided, single-layer 12 cm single-sided, double-layer 12 cm double-sided, double-layer (one layer per side) 8 cm single-sided, single-layer 8 cm single-sided, double-layer 8 cm double-sided, double-layer (one layer per side) (2) Compact disc (CD-DA, video CD) 12 cm disc 8 cm disc	Digital Audio Signal Output Characteristics	48 kHz sampling; 2 Hz to 22 kHz 96 kHz sampling; 2 Hz to 44 kHz [CD audio] 2 Hz to 20 kHz (EIAJ) (2) S/N ratio: [CD audio] 115 dB (EIAJ) (3) Dynamic range: [DVD linear audio] 103 dB [CD audio] 98 dB (EIAJ) (4) Total harmonic distortion: [CD audio] 0.0025 % (EIAJ)
		Digital Audio Output	Optical digital output: Optical connector Coaxial digital output: Pin jack: DVD-A120U/CA
S-Video Output (Separate YC Signal Output)	Y output level: 1 Vp-p (75 $\Omega$ ) C output level: 0.286 Vp-p (75 $\Omega$ ) Output connector: S terminal (1 system)	Pickup	Wave length: 665 nm Laser power: CLASS II
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# 1 SAFETY PRECAUTIONS

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[1.1 GENERAL GUIDELINES](#)

[1.1.1 LEAKAGE CURRENT COLD CHECK](#)

[1.1.2 LEAKAGE CURRENT HOT CHECK \(See Figure 1.\)](#)

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# 1.1 GENERAL GUIDELINES

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1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

[1.1.1 LEAKAGE CURRENT COLD CHECK](#)

[1.1.2 LEAKAGE CURRENT HOT CHECK \(See Figure 1.\)](#)

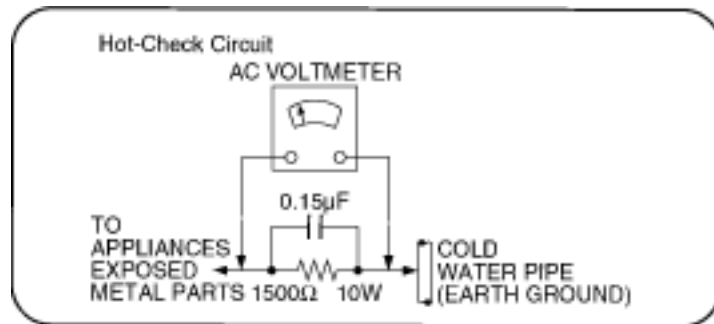
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# 1.1.1 LEAKAGE CURRENT COLD CHECK

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1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between  $1\text{M}\Omega$  and  $5.2\text{M}\Omega$ ./ When the exposed metal does not have a return path to the chassis, the reading must be.

Figure 1



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# 1.1.2 LEAKAGE CURRENT HOT CHECK

## (See Figure 1.)

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1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5k $\Omega$ , 10 watts resistor, in parallel with a 0.15 $\mu$ F capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

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# 2 PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

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Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).


1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise hamless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

#### **IMPORTANT SAFETY NOTICE**

There are special components used in this equipment which are important for safety. These parts are marked by  in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

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# 3 PRECAUTION OF LASER DIODE

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## Caution

This unit utilizes a class I laser. Invisible laser radiation is emitted from the optical pickup lens when the unit is turned on:

1. Do not look directly into the pickup lens.
2. Do not use optical instruments to look at the pickup lens.
3. Do not adjust the preset variable resistor on the optical pickup.
4. Do not disassemble the optical pickup unit.
5. If the optical pickup is replaced, use the manufactures specified replacement pickup only.
6. Use of control or adjustment or performance of procedures other than those specified herin may result in hazardous radiation exposure.

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# 4 HANDLING PRECAUTIONS FOR TRAVERSE DECK

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The laser diode in the optical pickup may break down due to potential difference caused by static electricity of clothes or human body.

So be careful of electrostatic break down during repair of the optical pickup.

[4.1 Handling of optical pickup](#)

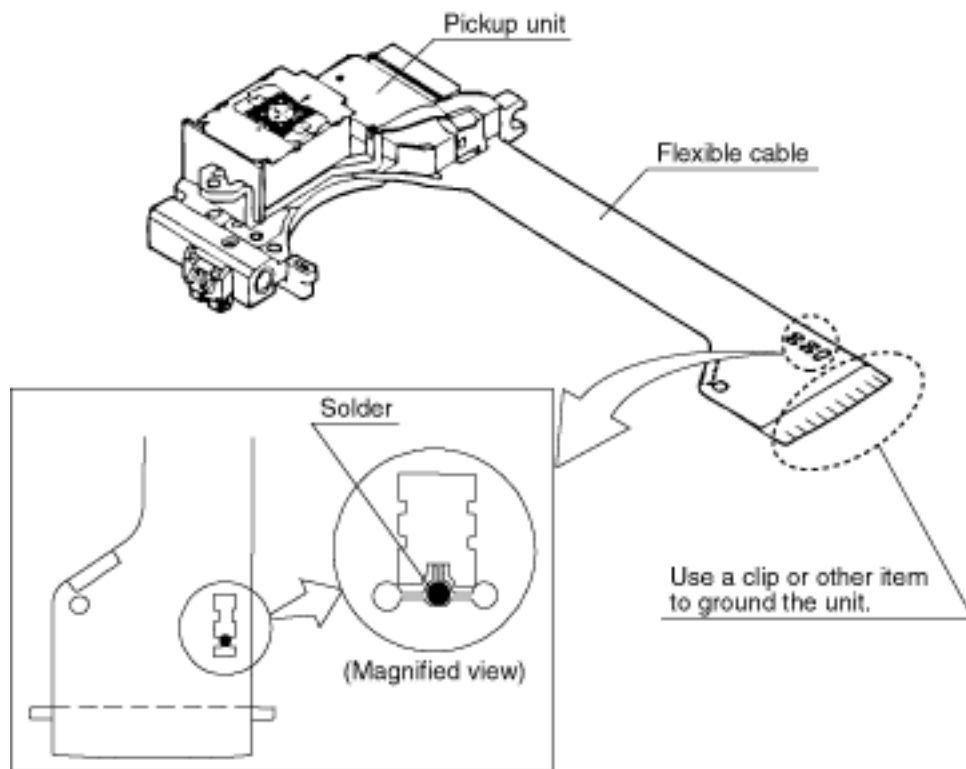
[4.2 Grounding for electrostatic breakdown prevention](#)

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# 4.1 Handling of optical pickup

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1. Do not subject the optical pickup to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC Board)./When removing or connecting the short pin, finish the job in as short times as possible.
3. Be careful not to apply excessive stress to the flexible board (FPC Board).
4. Do not turn the variable resistor (Laser power adjustment).



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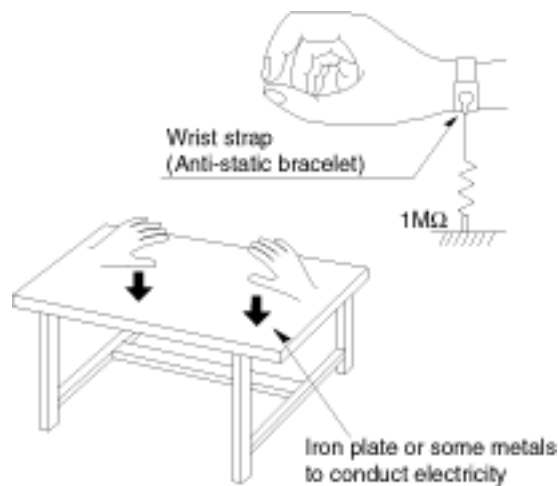
## 4.2 Grounding for electrostatic breakdown prevention

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1. Human body grounding/Use the antistatic wrist strap to discharge the static electricity from your body.
2. Work table grounding/Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed and ground the sheet.

### Caution

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pickup.



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# 5 Optical Pickup Self-Diagnosis and Replacement Procedure

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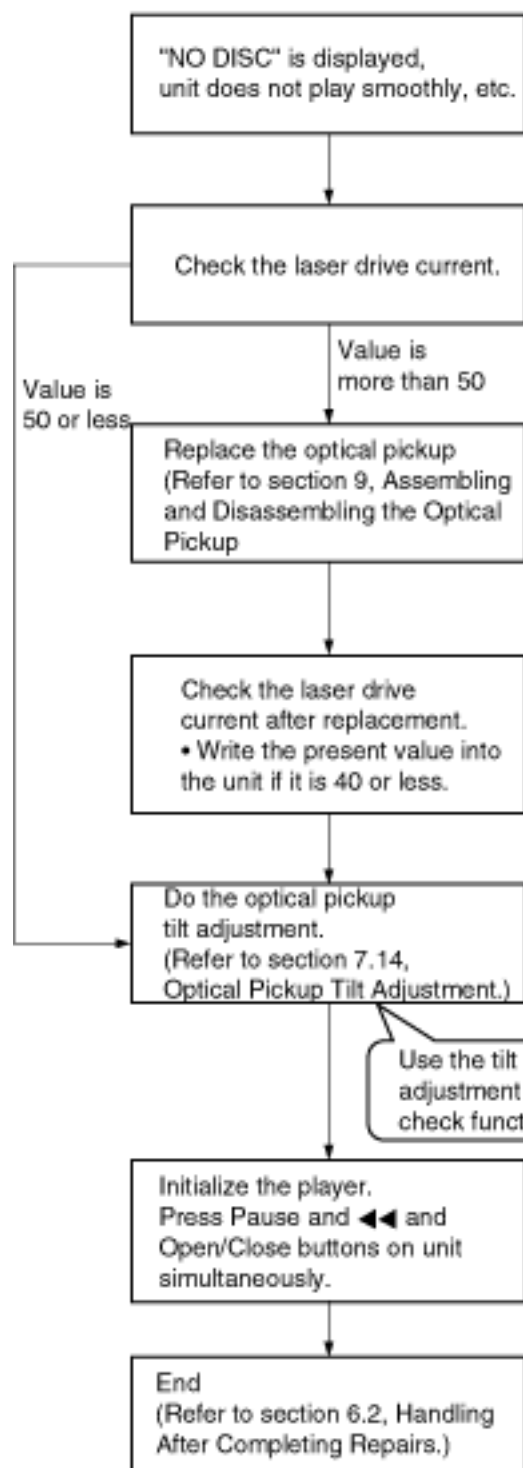
The optical pickup self-diagnosis function and tilt adjustment check function have been newly added to this player. When repairing, use the following procedure for effective Self-diagnosis and tilt adjustment.

Be sure to use the self-diagnosis function before replacing the optical pickup when "NO DISC" is displayed. As a guideline, you should replace the optical pickup when the value of the laser drive current is more than 50.

## Note

Press the power button to turn on the power, and check the value before the unit warms up (within three minutes).

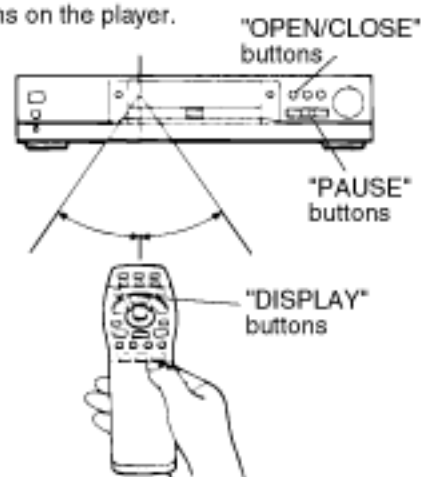
• Use the self diagnosis function below when NO DISC is displayed or unit doesn't read a disc, before replacing the OPU.



• Use the optical pickup self-diagnosis function.

**method:** With no disc in the player:

• Press the "DISPLAY" button on the remote control unit while pressing the "PAUSE" and "OPEN/CLOSE" buttons on the player.



**Display content**

LD    ○○○    ○○○  
Factory    Present value  
preset value

Replace with a new optical pickup if the present value is more than 40.

**Cause:**

Damage due to static electricity during replacement.

**method:** With no disc in the player:

• Press the "DISPLAY" button on the remote control unit while pressing the "PAUSE" and "OPEN/CLOSE" buttons on the player.

• Write the present value into the player if it is 40 or less.

**Writing method:**

• Press the "PAUSE" button on the remote control unit while pressing the "PAUSE" and "OPEN/CLOSE" buttons on the player

# 6 Self-Diagnosis Function and Service Modes

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[6.1 Service Mode Table](#)

[6.2 Self-Diagnosis Function \(UHF Display\)](#)

[6.3 Examples of Repairs Using Error Codes](#)

[6.4 Sales Demonstration Lock Function](#)

[6.4.1 Setting Method](#)

[6.4.2 Release Method](#)

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# 6.1 Service Mode Table

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The service modes can be activated by pressing various button combinations on the player and remote control unit.

Player buttons	Remote control unit buttons	Application	Note
PAUSE+OPEN/CLOSE	0	Displaying the UHF display F _ _ _	Refer to section 6.2, Self-Diagnosis Function (UHFDiplay).
	5	Tilt adjustment	Refer to section 11.14,Optical Pickup TiltAdjustment.
	6	Checking the region numbers and broadcast system	
	7	Checking the program version	Check the IC6302FLASH ROM program.
	9	Lighting Confirmation Fancion of Display Tube	
	DISPLAY	Checking the laser drive current	Refer to section 5,Optical PickupSelf-Diagnosis andReplacement
	PAUSE	Writing the laser drive current value after replacingthe optical pickup (do not use for anything other thanoptical pickup replacement)	Procedure.
PAUSESKIP/SEARCH<<OPEN/CLOSE		Initializing the DVD player(restoring factory preset settings)*Use when replaceing a microprocessor, microprocessor peripheral parts, or C.B.A.	Refer to section 10.1 Initializing the DVDPlayer

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# 6.2 Self-Diagnosis Function (UHF Display)

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This unit incorporates a convenient self-diagnosis function for use in troubleshooting.

Display method	Display	Diagnosis	Checkpoints
Service numbers displayed/during use	U11	Focus error	IC2001,IC2511,IC5201,pickup
	H01	Tray loading error	IC2001, IC2511, loading motor
	H02	Spindle servo error	Spindle motor, IC2501, IC2001
	H03	Traverse error	Stepping motor, IC2511, IC2001
	H04	Tracking servo error	IC2001, IC2501, IC5201, pickup, disc
	H05	Seek error	Stepping motor, IC2511, IC2001
	H06	Power supply error	IC1021, IC1121, IC1151, IC6001
Press the "0" button on the remote control unit while pressing the "PAUSE" and "OPEN/CLOSE" button on the player.	F0**	Disc format error	If this type of error occurs, refer to section 6.3, Examples of Repairs Using Error Codes.
	F1**	Disc code error	
	F2**	Decoder LSI error	
	F3**	SDRAM error	
	F4**	IIC BUS error	
	F5**	DSC	
	F6**	ECC error	
	F7**	Microprocessor error	
	F8**	Microprocessor error	

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# 6.3 Examples of Repairs Using Error Codes

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Refer to this section when carrying out repairs.

Error display	Malfunction example
F0**F103F4FFF500F501F502F504F505F506F600F601F602F603F610F611F612F620F621F700F701F702F880F890F891F8A0F893F894	Disc, IC7001Disc, IC7001IC6001Optical pickup, IC2001, IC5201, IC2511, IC2501IC2001, IC6201IC2501, IC2511, IC2001, IC5202IC5202, IC2001Disc, IC2501, IC2511, IC5202, IC2001Disc,Optical pickup, IC2001Disc, IC7001, IC5202, IC2001Disc, IC7001Disc, IC5202, IC2001Disc, IC5202, IC2001IC7001IC7001, IC5202, IC2001IC7001, IC15202, IC2001Laser drive circuitLaser drive circuitIC6201IC6201IC6201IC6201IC6201IC6201IC6201IC6302IC6303

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# 6.4 Sales Demonstration Lock Function

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This function prevents discs from being lost when the unit is used for sales demonstrations, by disabling the disc eject function. "LOCKED" is displayed on the unit, and ordinary operation is disabled.

[6.4.1 Setting Method](#)

[6.4.2 Release Method](#)

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# 6.4.1 Setting Method

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The sales demonstration lock function is set by simultaneously pressing the "POWER" button of DVD Player on the remote control unit and the "STOP" button on the main unit. ("LOCKED" is displayed when the lock function is engaged.)

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## 6.4.2 Release Method

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The function can be released using the same procedure as for setting. If the remote control unit is not at hand, the function can be released by using the same method as for player initialization (pressing the "PAUSE," "SKIP/SEARCH<<" and "OPEN/CLOSE" buttons simultaneously).

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# 7 Service Tools and Equipment

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[7.1 Service Tools and Equipment Table](#)

[7.2 Storing and Handling Test Discs](#)

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# 7.1 Service Tools and Equipment Table

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Application	Name	Number
General	DVD test disc	DVDT-S15 or DVDT-S01
Tilt adjustment	Hex wrench	JZS0100
	Adjustment table	VFK0539
Inspection	Extension cables (power supply C.B.A. to mother C.B.A.)	JGS0099
	Extension cable (module C.B.A. to mother C.B.A.)	JGS0098
Others	Screw lock	RZZ0L01
	Grease	JGS0091
		JGS0092
	Lubricant	JZS0648
	Grease	JGS0101
Confirmation	CD test disc	SZZP1054C
	VCD test disc	PVCD_K06
Electrical adjustment	Oscilloscope	
	Probe	
	AV cable	VJA0658
	TV monitor	
General	General tools (Screw driver. etc)	
Static electricity countermeasures	Soldering iron (with ESD countermeasure)	
	Anti-static wrist strap	
	Conductive material (conductive sheet)	

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# 7.2 Storing and Handling Test Discs

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Surface precision is vital for DVD test discs. Be sure to store and handle them carefully.

1. Do not place discs directly onto the workbench, etc., after use.
2. Handle discs carefully in order to maintain their flatness./Place them into their case after use and store them vertically. Store discs in a cool place where they are not exposed to direct sunlight or air from air conditioners.
3. Accurate adjustment will not be possible if the disc is warped from being placed on a surface made of glass, etc. If this happens, use a new test disc to make optical adjustments.
4. If adjustment is done using a warped disc, the adjustment will be incorrect and some discs will not be playable.

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# 8 General Description

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[8.1 Operating Instructions](#)

[TOP](#) [PREVIOUS](#) [NEXT](#)

# 8.1 Operating Instructions

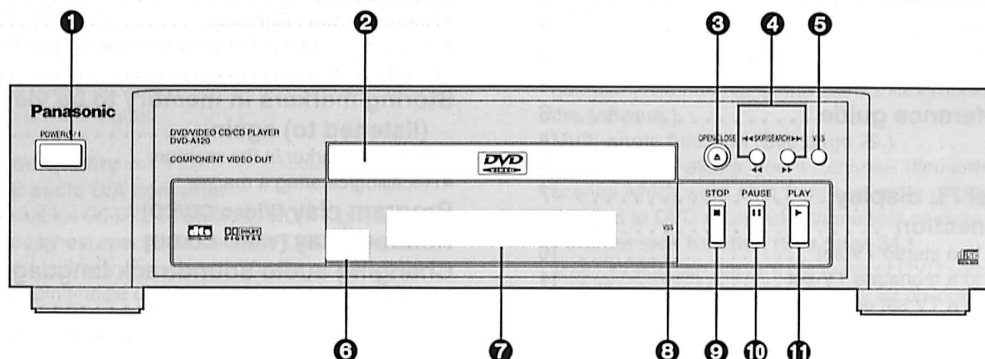
[TOP](#) [PREVIOUS](#) [NEXT](#)



[TOP](#) [PREVIOUS](#) [NEXT](#)

# Control reference guide

## Main unit

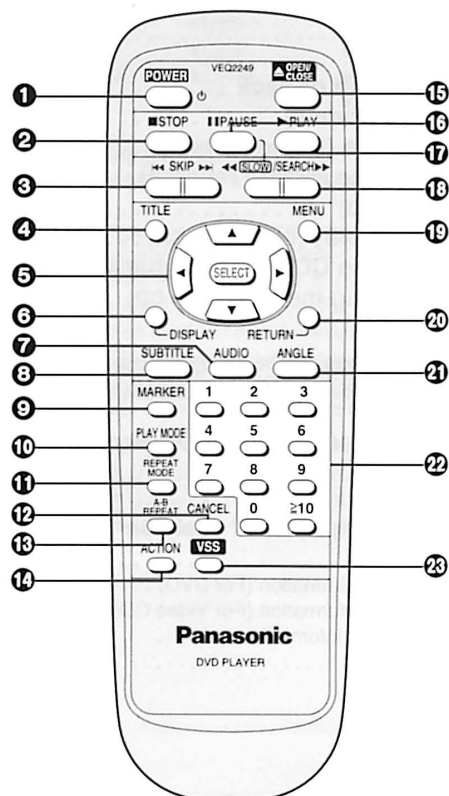


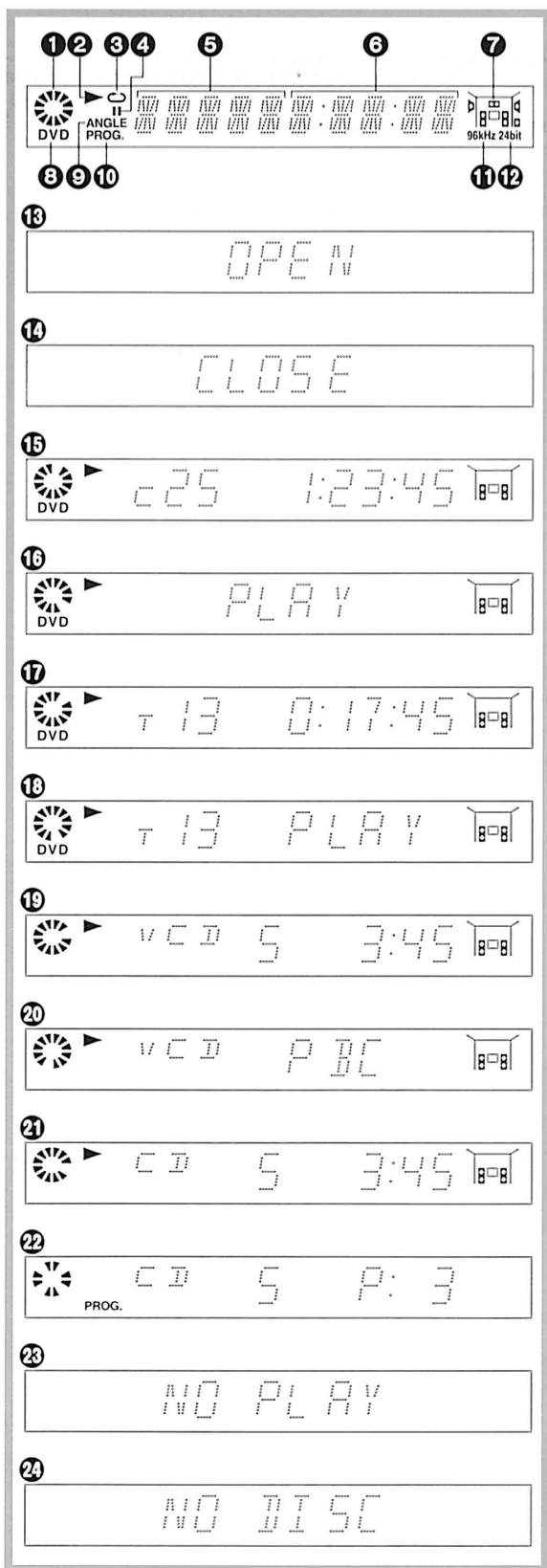
	Page
<b>1</b> POWER button (⏻/⏻) .....	16
Press to switch the player from on to standby mode or vice versa. In standby mode, the player is still consuming a small amount of power.	
<b>2</b> Disc tray .....	16
<b>3</b> OPEN/CLOSE button (⏏) .....	16
<b>4</b> SKIP/SEARCH buttons (⏮/⏮, ⏭/⏭) .....	17, 18, 19

	Page
<b>5</b> VSS (Virtual Surround Sound) button .....	30
<b>6</b> Remote control signal sensor .....	15
<b>7</b> FL Display .....	7
<b>8</b> VSS indicator .....	30
<b>9</b> STOP button (■) .....	17
<b>10</b> PAUSE button (⏸) .....	18
<b>11</b> PLAY button (▶) .....	17


## Remote control unit

	Page
<b>1</b> POWER button (⏻) .....	16
<b>2</b> STOP button (■) .....	17
<b>3</b> SKIP buttons (⏮, ⏭) .....	17, 18
<b>4</b> TITLE button .....	17, 31
<b>5</b> Cursor buttons (⬆, ⬇, ⬅, ➡)/SELECT button .....	17
<b>6</b> DISPLAY button .....	20
<b>7</b> AUDIO button .....	28
<b>8</b> SUBTITLE button .....	29
<b>9</b> MARKER button .....	25
<b>10</b> PLAY MODE button .....	26, 27
<b>11</b> REPEAT MODE button .....	24
<b>12</b> CANCEL button .....	20, 25, 27, 33
<b>13</b> A-B REPEAT button .....	25
<b>14</b> ACTION button .....	32
<b>15</b> OPEN/CLOSE button (⏏) .....	16
<b>16</b> PAUSE button (⏸) .....	18
<b>17</b> PLAY button (▶) .....	17
<b>18</b> SLOW/SEARCH buttons (⏮, ⏭) .....	19
<b>19</b> MENU button .....	17, 19, 31
<b>20</b> RETURN button .....	17, 20, 32
<b>21</b> ANGLE button .....	29
<b>22</b> Numeric buttons .....	17
• To select a 2-digit number Example: To select track 23 Press "≥10", "2" and then "3".	
<b>23</b> VSS (Virtual Surround Sound) button .....	30





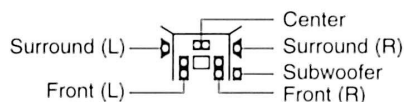
## Front panel FL display

- 1**  Rotates during play.  
Rotates fast clockwise or counterclockwise during rapid advance (reverse). (See page 19.)  
Rotates slowly clockwise or counterclockwise during slow-motion play.  
[DVD/Video CD] (See page 19.)



Illuminates in the stop mode.

- 2** Illuminates during playback.  
Flashes when the RESUME function is ON.  
(See page 17.)
- 3** Illuminates during repeat play. (See page 24.)
- 4** Illuminates in the still picture (pause) mode.  
(See page 18.)
- 5** Indicates the title/chapter number. [DVD]  
Indicates the track number. [Video CD/CD]
- 6** Indicates the elapsed playing time from the start of the title/track during play.
- 7** Indicates the audio channel information recorded in the disc being played back (e.g. 2ch or 5.1ch).



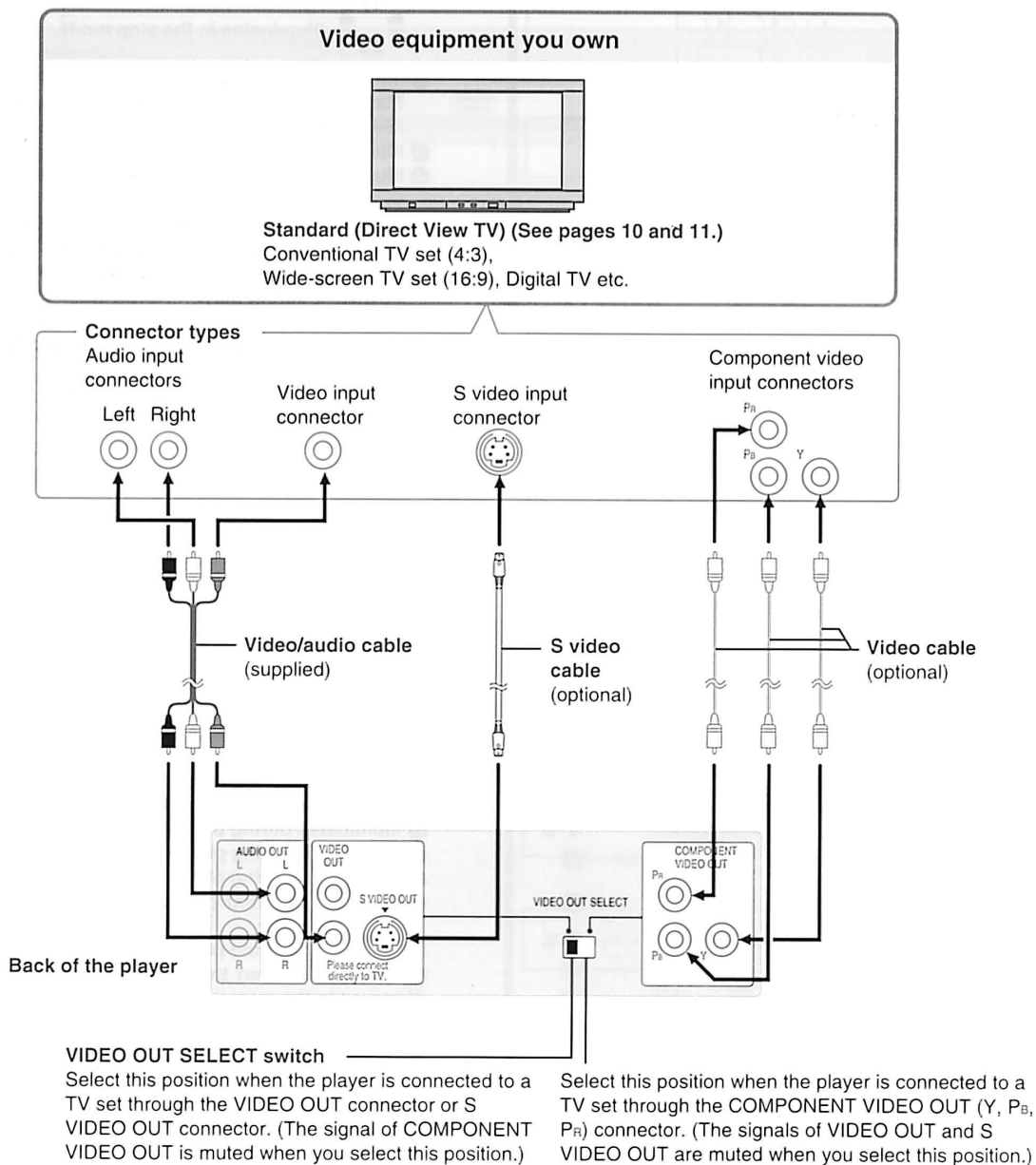
- 8** Illuminates when a DVD is loaded.
- 9** Illuminates when it is possible to switch the angle.  
[DVD] (See page 29.)
- 10** Illuminates during program play. [Video CD/CD]  
(See page 26.)
- 11** Illuminates when Linear PCM of 96 kHz sampling is being played.
- 12** Illuminates when Linear PCM of 24 bit is being played.
- 13** Illuminates when the disc tray is open.
- 14** Illuminates when the disc tray is being closed (retracted).
- 15** Illuminates during play of a DVD.
- 16** Illuminates during play of an interactive DVD.\*
- 17** Illuminates during play of a Karaoke DVD.
- 18** Illuminates during play of an interactive Karaoke DVD.\*
- 19** Illuminates during play of a Video CD.
- 20** Illuminates during play of a Video CD with playback control.
- 21** Illuminates during play of a CD.
- 22** Illuminates when the track number is selected to be stored in the memory (program play). [Video CD/CD]  
(See page 27.)
- 23** Illuminates when playback is impossible.
- DVD for which playback is prohibited by the initial settings "2 Ratings". (See page 34.)
  - DVD with Region No. other than "1" or "ALL".  
(See page 4.)
  - Disc of PAL system
- 24** Illuminates when no disc is loaded.

\*An interactive DVD is DVD software which includes multiple angles, multiple plot endings, etc.

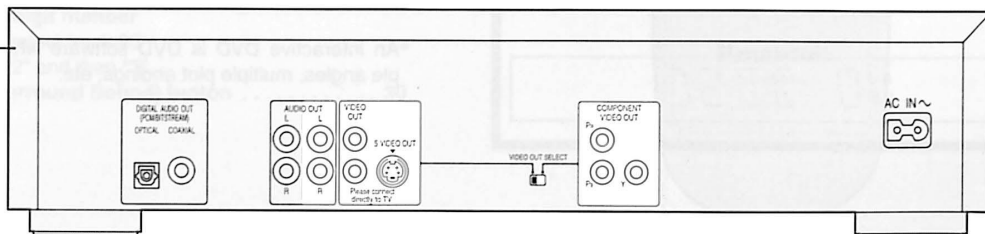
## Basic connection

- Ensure that this player and other equipment to be connected are set to the standby mode or off, and disconnect the AC cords, before commencing connection.
- Do not block ventilation holes of any of the equipment and arrange them so that air can circulate freely.
- Read through the instructions before connecting other equipment.
- Ensure that you observe the color coding when connecting audio and video cables.

Refer to the following table for details on what models can be connected to this player, and what cables are required.



DVD/Video CD/  
CD player



## ■ Optional audio connection

### Audio equipment (Analog connection)

2ch



Audio equipment (See page 12.)

#### Connector types

Audio input connectors

Left Right



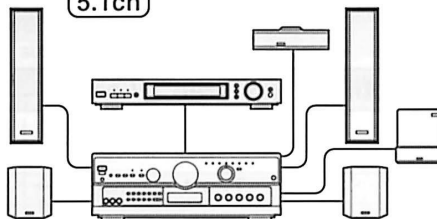
Audio cable  
(optional)



Back of the player

### Audio equipment (Digital connection)

5.1ch



Decoder with Dolby Digital  
(AC-3)/dts and AV amplifier  
with 5.1ch input connectors  
(See page 14.)

#### Connector types

Digital audio input connector

Optical

or

Coaxial



Optical digital  
audio cable  
(optional)

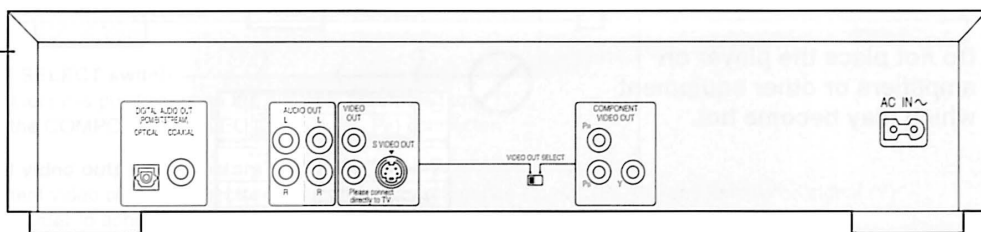


Coaxial  
audio cable  
(optional)



Back of the player

DVD/Video CD/  
CD Player



## Basic connection

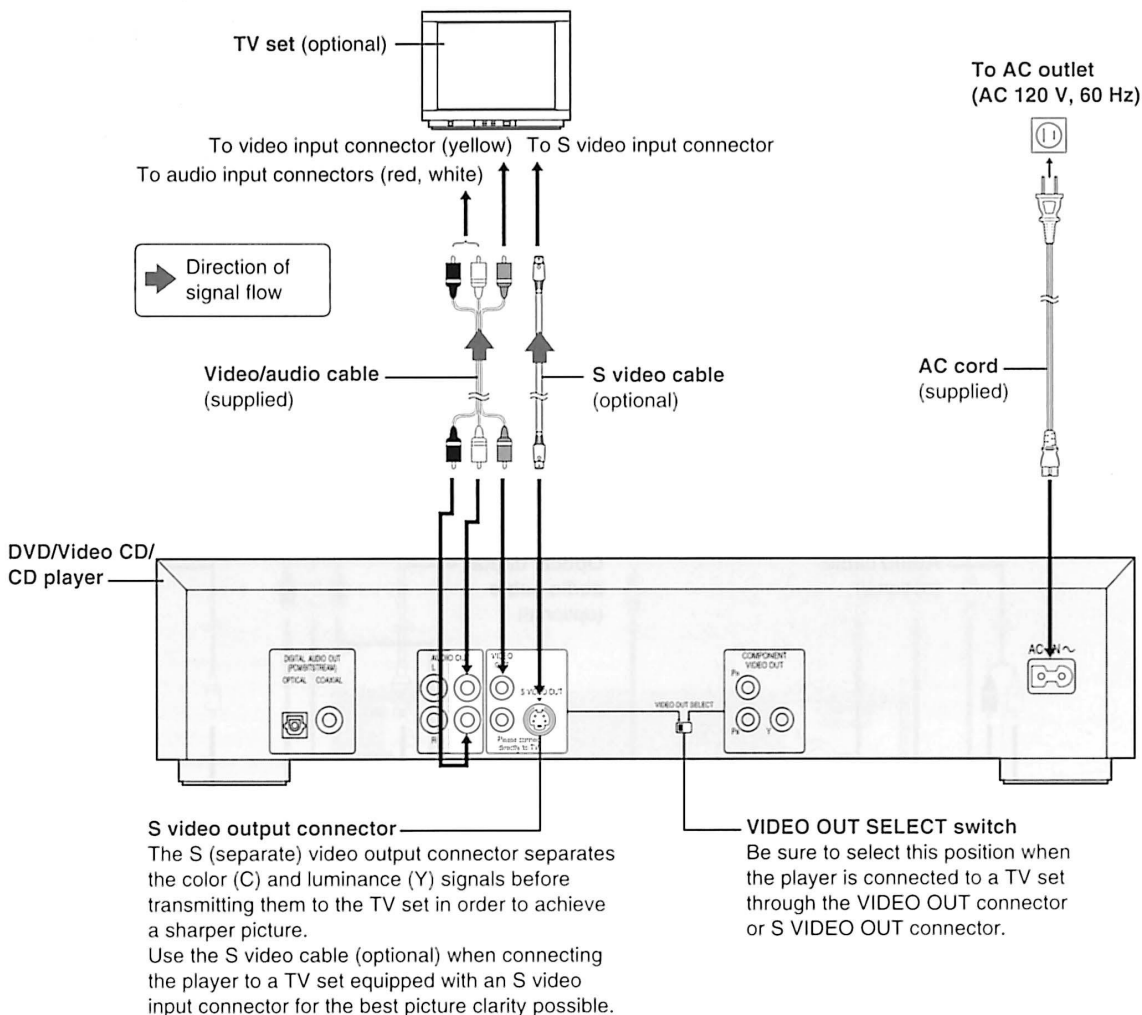
### Notes:

- During DVD play, the TV volume may be at a lower level than during TV broadcasts, etc. If this is the case, adjust the volume to the desired level.
- Select the appropriate screen type at the initial setting "6 TV Aspect" according to your TV set (4:3/16:9). (See page 37.)

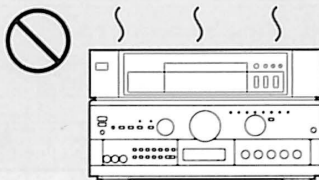
### Connect Your DVD/Video CD/CD Player Directly To Your TV Set.

If the DVD/Video CD/CD player is connected to the TV through a video cassette recorder, the picture may not be played back normally with some DVDs. So we strongly recommend you not to connect the DVD/Video CD/CD player to your video cassette recorder when setting up your home entertainment system.

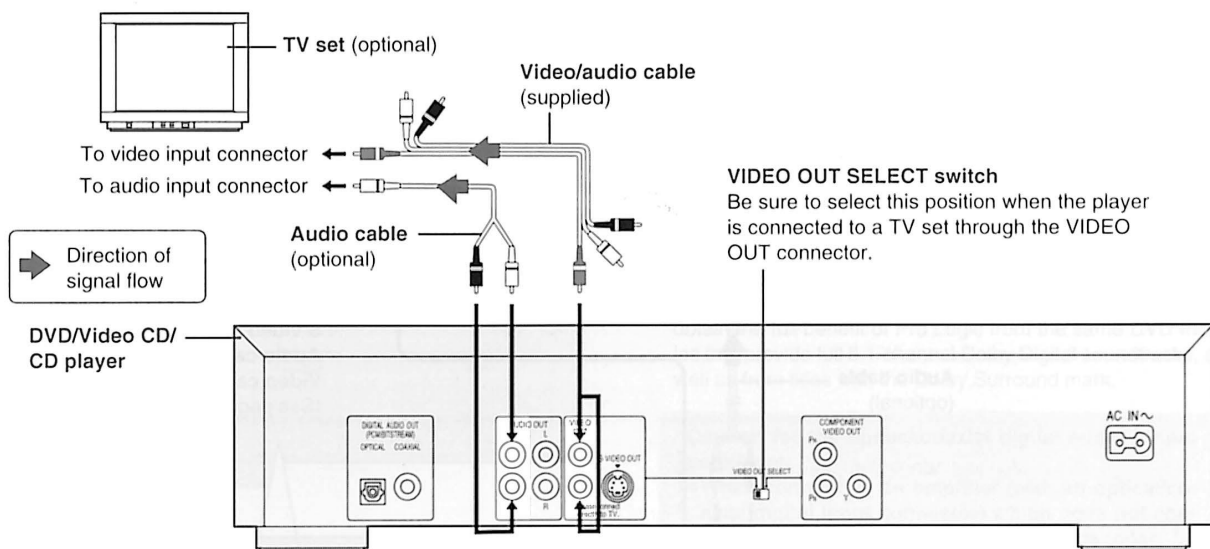
## Connecting to a stereo TV set



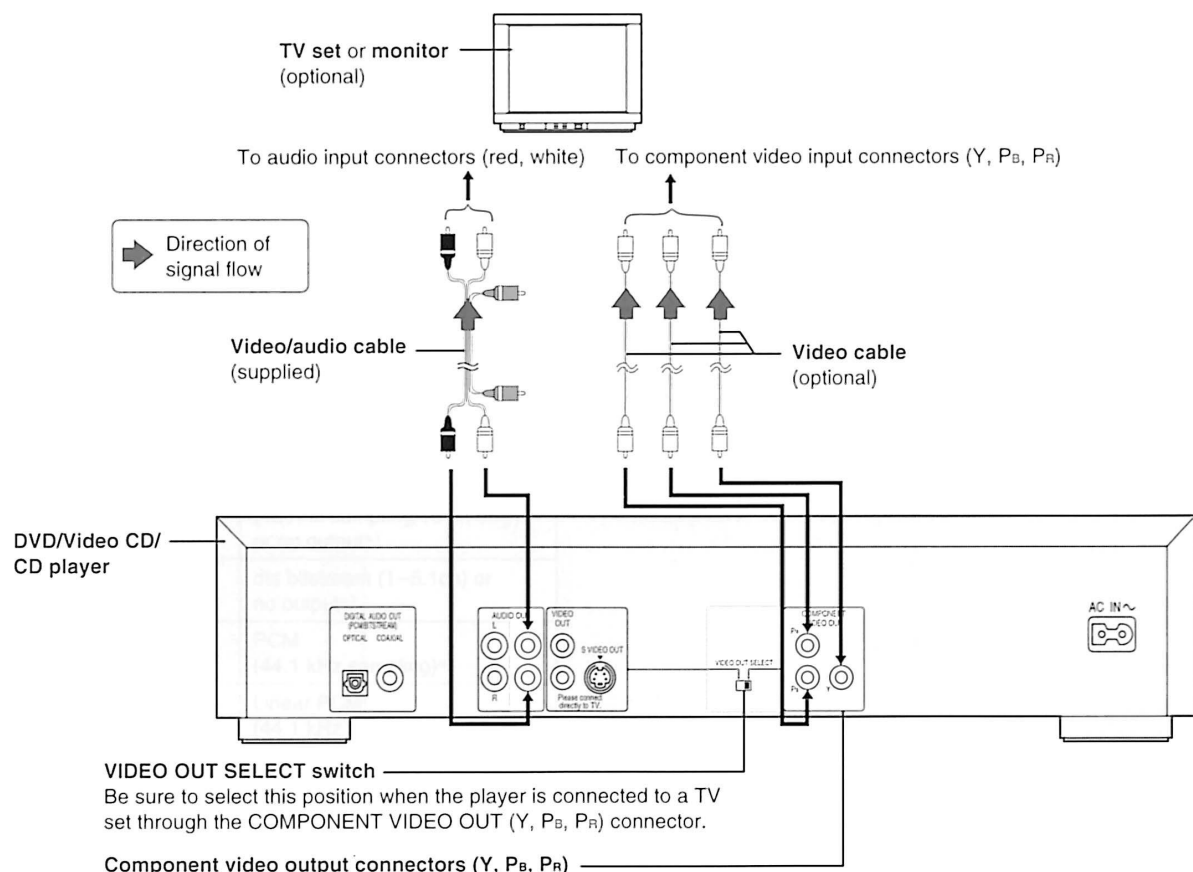
**Do not place the player on amplifiers or other equipment which may become hot.**



## Connecting to a monaural TV set



## Connecting to a TV set or monitor with component video input connectors



### Component video output connectors (Y, Pb, Pr)

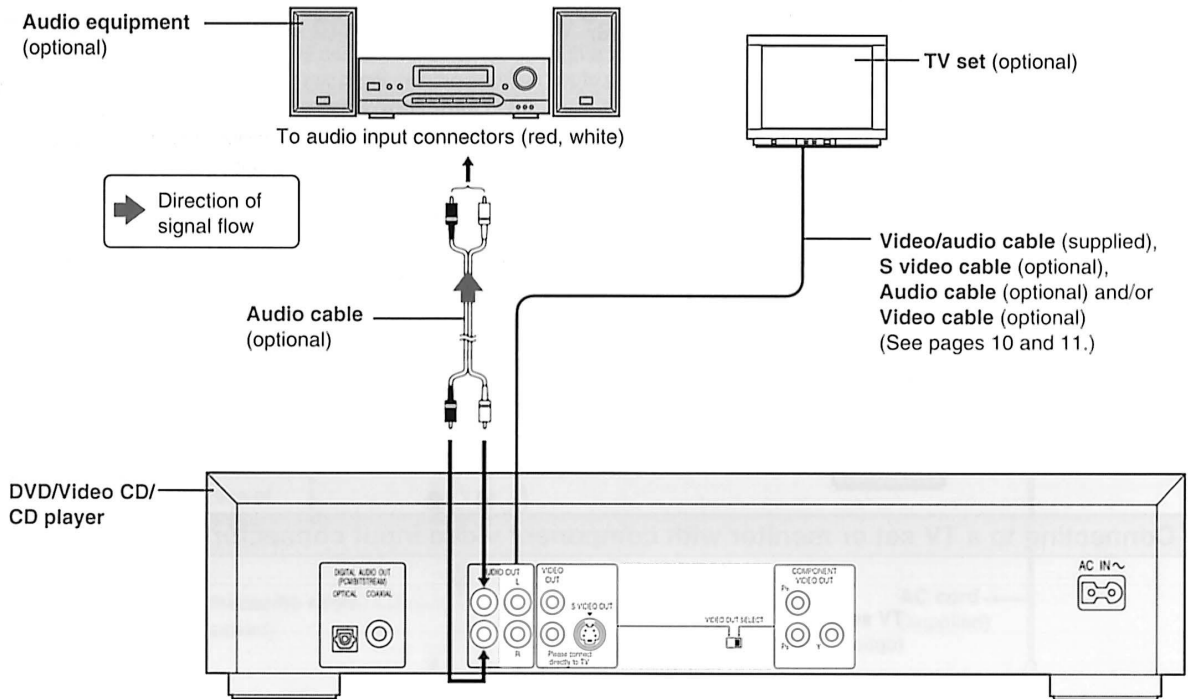
The component video output connector outputs the color difference signals (Pb, Pr) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colors.

- The description of the component video input connectors may differ depending on the TV set or monitor (e.g. Y, Pb, Pr/Y, B-Y, R-Y/Y, Cb, Cr and so on). Refer to the instruction manual of your TV set for details.



## Optional audio connections

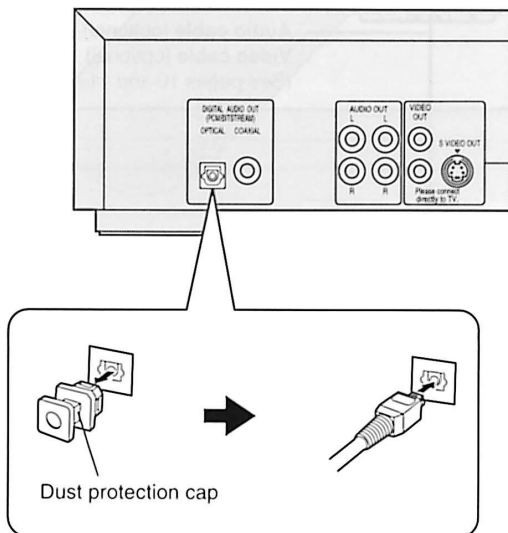
### Connecting to audio equipment



## Enjoying digital audio output from the digital audio output connector

Notes when connecting the optical digital audio cable (optional)

- Remove the dust protection cap from the optical digital audio output connector and connect the cable firmly so that the configurations of both the cable and the connector match.
- Keep the dust protection cap and, to protect against dust, always reattach the cap when not using the connector.



Concerning the audio output from the player's optical/coaxial digital audio output connector

Disc	Sound recording format	Optical/coaxial digital audio output from connector
DVD	Dolby Digital (AC-3)	Dolby Digital bitstream (1–5.1ch) or PCM (2ch) (48 kHz/16 bit) <sup>*1 *2</sup>
	Linear PCM (48/96 kHz 16/20/24 bit)	Linear PCM (2ch) (48 kHz sampling/16 bit only) or no output <sup>*1</sup>
	dts	dts bitstream (1–5.1ch) or no output <sup>*1</sup>
Video CD	MPEG 1	PCM (44.1 kHz sampling) <sup>*2</sup>
CD	Linear PCM	Linear PCM (44.1 kHz sampling)

<sup>\*1</sup>The type of audio output from the connector can be selected by "7 Digital Audio Output" of the initial settings. (See page 38.)

<sup>\*2</sup>Compressed sound converted to PCM will be output.

Note:

- Some dts decoders which do not support DVD-dts interface may not work properly with the DVD/Video CD/CD player.

For your reference:

- Dolby Digital (AC-3) is a digital sound compression technique developed by the Dolby Laboratories, Inc. Supporting 5.1-channel surround sound, as well as stereo (2-channel) sound, this technique enables a large quantity of sound data to be efficiently recorded on a disc.
- Linear PCM is a signal recording format used in a CD. While a CD is recorded in 44.1 kHz/16 bit, a DVD is recorded in 48 kHz/16 bit up to 96 kHz/24 bit.
- If you have a Dolby Pro Logic Surround decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1-channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark.

### Caution for the optical/coaxial digital audio output connector:

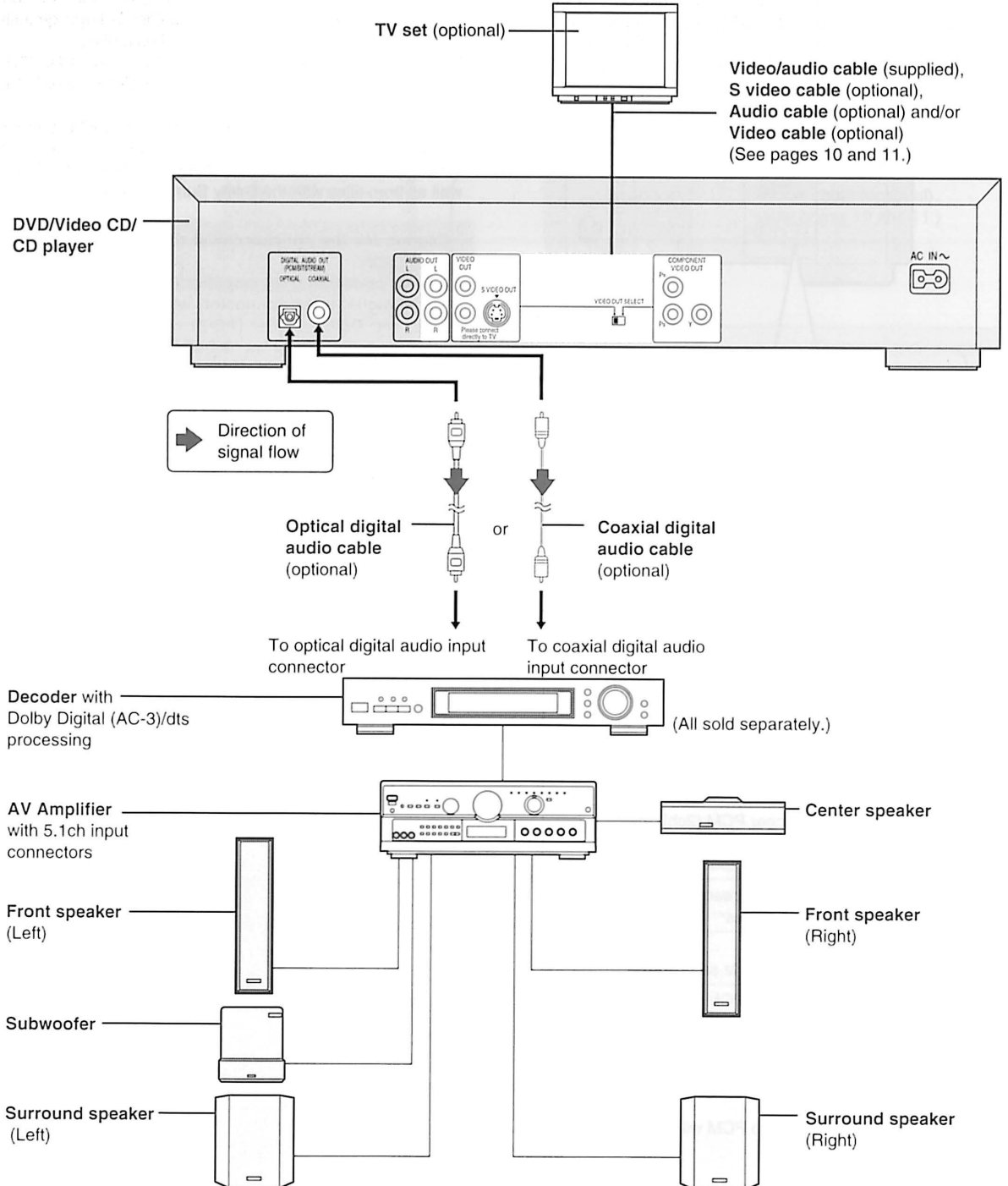
- When connecting an amplifier (with an optical/coaxial digital input connector) which does not contain the Dolby Digital (AC-3) or dts decoder, be sure to select "PCM" at "2 Dolby Digital" and "Off" at "3 dts" of the initial setting "7 Digital Audio Output". (See page 38.)
- Otherwise any attempt to play DVDs may cause such a high level of noise that it may be harmful to your ears and damage your speakers.
- Video CDs and CDs can be played as they would normally be played.

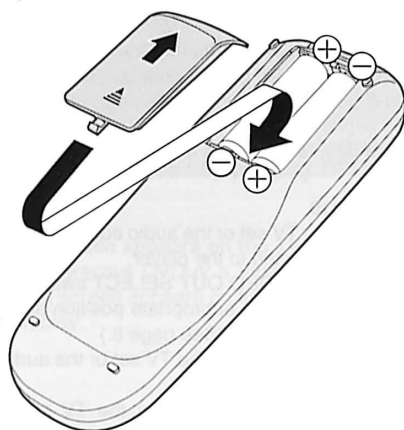
Manufactured under license from Dolby Laboratories. "Dolby", "AC-3", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories. Confidential Unpublished Works. © 1992–1997 Dolby Laboratories, Inc. All rights reserved.

## Optional audio connections

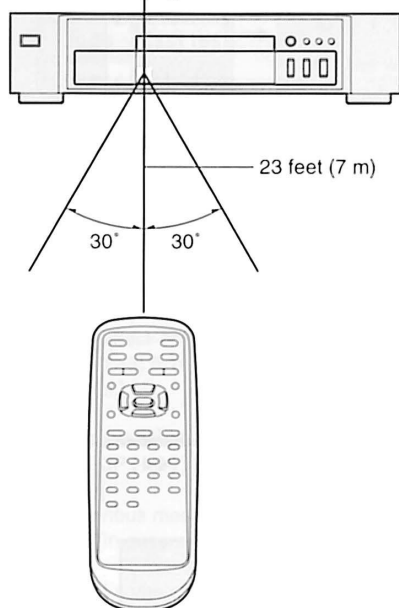
### Connecting to a decoder with Dolby Digital (AC-3) or dts (digital theater systems) processing

When DVDs recorded in Dolby Digital or dts are played, Dolby Digital bitstream or dts bitstream is output from the player's OPTICAL digital audio output connector or COAXIAL digital audio output connector. When the player is connected to a Dolby Digital decoder or dts decoder, you can enjoy theater-quality audio in your home. [An optical digital audio cable or coaxial digital audio cable (both optional) is required when an optional Dolby Digital decoder or dts decoder is used.]



**A****B**

Remote control signal sensor



## Remote control unit preparation

### Battery installation

Insert the batteries while observing the correct (+) and (-) polarities as illustrated at left.

### Service life of batteries

- The batteries normally last for about one year although this depends on how often, and for what operations, the remote control unit is used.
- If the remote control unit fails to work, even when it is operated near the player, replace the batteries.
- Use size "AA" batteries.

### Notes:

- Do not use rechargeable (Ni-Cd) batteries.
- Do not attempt to recharge, short-circuit, disassemble, heat or throw the batteries into a fire.
- Do not drop, step on or otherwise impact the remote control unit. This may damage the parts or lead to malfunction.
- Do not mix old and new batteries.
- If the remote control unit is not going to be used for a long time, remove the batteries. Otherwise, electrolyte may leak which may lead, not only to malfunctioning but also, to burns if contact is made with the electrolyte.
- Wipe away any electrolyte leaking inside the remote control unit, and install new batteries.
- If any electrolyte should come into contact with parts of your body, wash it off thoroughly with water.

### Remote control operation range

Point the remote control unit from no more than about 23 feet (7 m) from the remote control sensor and within about 60° of the front of the player.

- The operating distance may vary according to the brightness of the room.

### Notes:

- Do not point bright lights at the remote control sensor.
- Do not place objects between the remote control unit and the remote control sensor.
- Do not use this remote control unit while simultaneously operating the remote control unit of any other equipment.

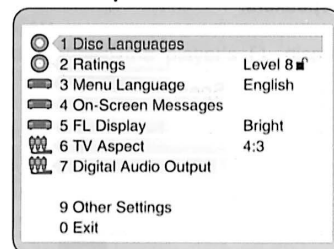
## Initial settings

Once the initial settings have been completed, the player can always be operated under the same conditions (especially with DVD discs).

The settings will be retained in the memory, until the settings are changed, even after switching to standby mode.

### Common procedures of initial settings

#### 1 Press ACTION in the stop mode.



#### 2 Press the cursor buttons (▲, ▼) to select the preferred item and press SELECT.

Each screen for setting the value is displayed.

- 1 Disc Languages (see page 33)
- 2 Ratings (see page 34)
- 3 Menu Language (see page 35)
- 4 On-Screen Messages (see page 36)
- 5 FL Display (see page 37)
- 6 TV Aspect (see page 37)
- 7 Digital Audio Output (see page 38)
- 9 Other Settings (see page 40)

#### 3 Press the cursor buttons (▲, ▼) to select the preferred value and press SELECT.

- Some items require additional steps. (See the respective page.)

Setting is finished and the initial settings screen is displayed.

#### To cancel during setup operation

Press RETURN or select "0". (The previous screen is displayed.)

#### To clear the initial settings screen

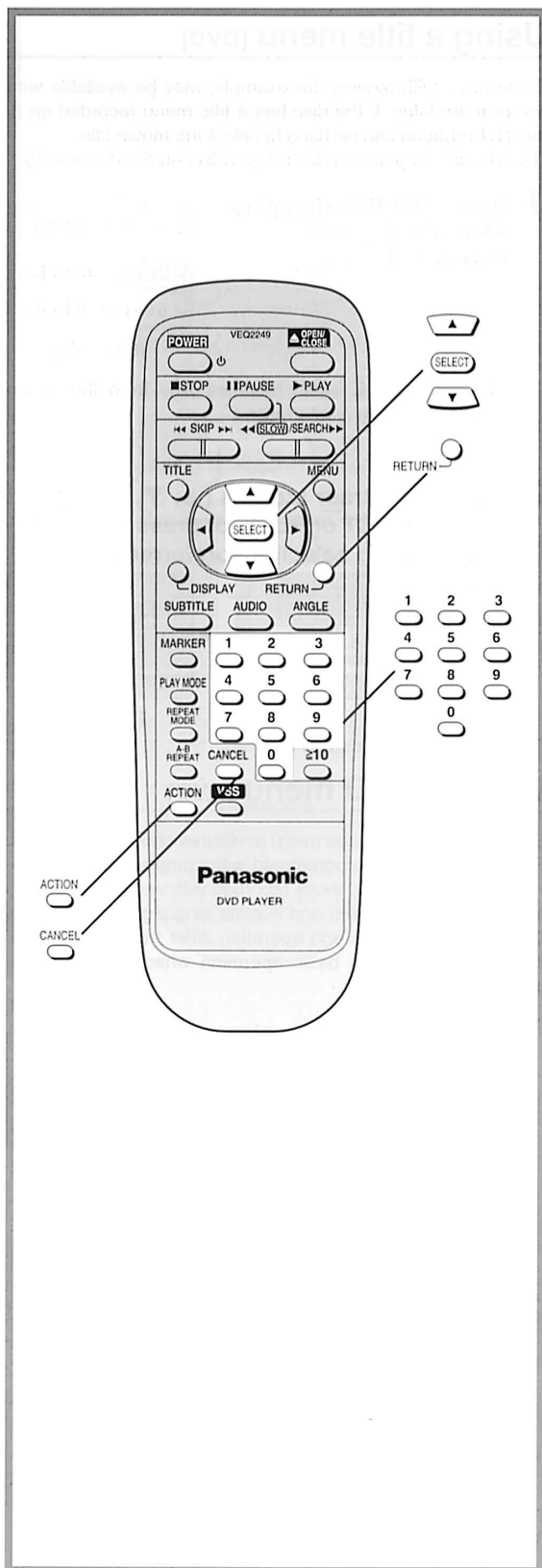
Press the cursor buttons (▲, ▼) to select "0" and press SELECT. (Pressing ACTION or RETURN also clears the initial settings screen.)

#### Notes:

- There is no No. 8 in the initial settings menu of this player.
- After the player is set to the "Lock All" setting in "2 Ratings", none of the initial settings, including "2 Ratings", can be changed if the DVD disc is left inside the player. In this case, remove the disc, and unlock the player.

#### For your reference:

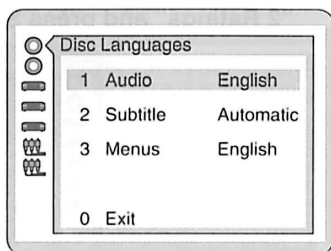
- The numeric buttons can also be used for selecting items or values instead of the cursor buttons (▲, ▼); in this case, pressing SELECT is not necessary.



## Selecting disc languages [DVD]

This is to select the audio soundtrack language, subtitle language and the language used in title menus or DVD menus which will always be used for every disc to be played back.

- 1 At the initial settings screen (on page 32)  
Press the cursor buttons (▲, ▼) to select "1 Disc Languages" and press SELECT.



- 2 Press the cursor buttons (▲, ▼) to select the preferred item and press SELECT.

- 1 **Audio:**  
To select the audio soundtrack language.
- 2 **Subtitle:**  
To select the subtitle language.
- 3 **Menu:**  
To select the language used in title menus or DVD menus.

- 3 Press the cursor buttons (▲, ▼) to select the preferred language and press SELECT.

When "1 Audio" is selected

- 1 **English:** English is selected. (Factory preset)
- 2 **French/3 Spanish:** Each language is selected.
- 4 **Original:** The original language of each disc will be selected.
- 5 **Other \*\*\*\*\*:** Another language can be selected. (Refer to the language codes on page 42. Press CANCEL if an incorrect language code is entered.)

When "2 Subtitle" is selected

- 1 **Automatic:** The same language selected for the "1 Audio" will be selected. (Factory preset)
  - If the language selected for the "1 Audio" is actually used during playback, the subtitles will not appear.
  - If another language is used during playback, the subtitles will appear in the language selected at the setup "1 Audio".
- 2 **English/3 French/4 Spanish:** Each language is selected.
- 5 **Other \*\*\*\*\*:** Another language can be selected. (Refer to the language codes on page 42. Press CANCEL if an incorrect language code is entered.)

When "3 Menu" is selected

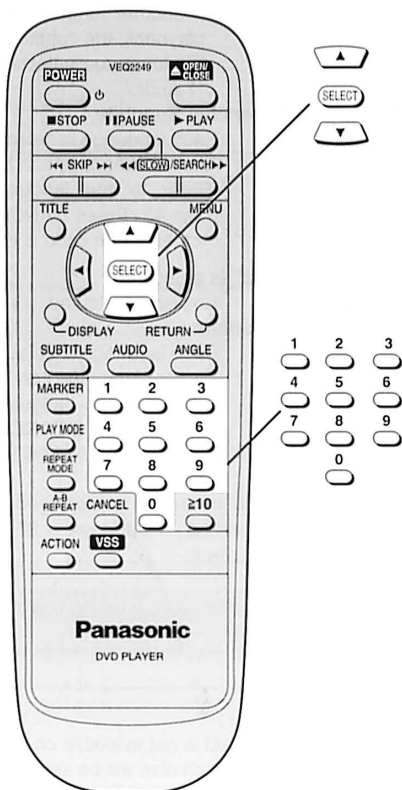
- 1 **English:** English is selected. (Factory preset)
- 2 **French/3 Spanish:** Each language is selected.
- 4 **Other \*\*\*\*\*:** Another language can be selected. (Refer to the language codes on page 42. Press CANCEL if an incorrect language code is entered.)

The screen illustrated in step 1 is displayed. Select "0" by using the cursor buttons (▲, ▼) and press SELECT to return to the initial settings screen.

Also refer to "Common procedures of initial settings" on page 32.

Note:

- If the language selected is not available on the disc, the language designated by each disc will be selected.



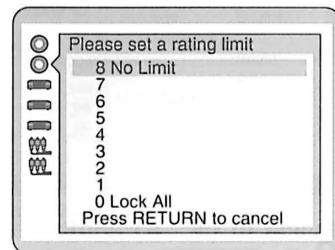
## Initial settings

### Selecting rating level [DVD]

This is to disable the playing of specified DVDs which are unsuitable for children.

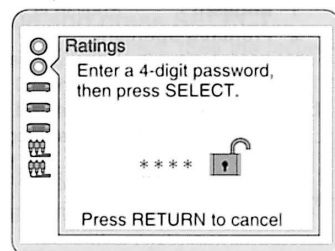
- Some DVDs are encoded with a specific rating level. If the rating level of the disc is higher than that preset in the initial settings operation, playback of the disc will be prohibited.

- At the initial settings screen (on page 32)  
Press the cursor buttons (▲, ▼) to select "2 Ratings" and press SELECT.



- Press the cursor buttons (▲, ▼) to select the preferred level and press SELECT.

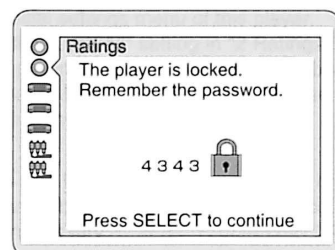
- Level 8:** All DVDs can be played back.  
(Factory preset)
- Level 7 to 2:** DVDs for general audiences/children can be played back.  
(DVDs for adults are prohibited.)
- Level 1:** DVDs for children can be played back.  
(DVDs for adults/general audiences are prohibited.)
- Level 0:** Playback of all DVDs is prohibited (e.g. to prohibit playback of DVDs for adults which are not encoded with rating level information).



- When level 7 or lower is selected  
Input a 4-digit password by pressing the numeric buttons and press SELECT.

The lock symbol appears closed to show the rating is locked.

Example: "4343"  
Do not forget your password.



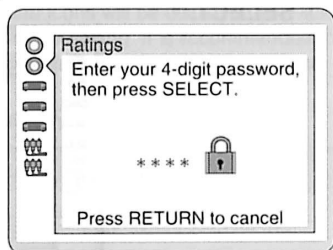
## 4 Press SELECT.

Setting is finished and the initial settings screen is displayed.

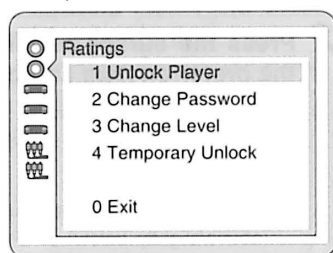
- The rating is locked. Any discs whose rating is higher than the setting cannot be played back unless the correct password is entered.

### When the player is locked

The following screen appears when "2 Ratings" is selected at the initial settings screen.



1. Input a 4-digit password and press SELECT.



2. To unlock the player

Press "1" and then press SELECT.

#### To change the password

Press "2", enter a new 4-digit password and press SELECT, then press SELECT again.

#### To change the rating level

Press "3", select a new level by pressing the cursor buttons (▲, ▼), then press SELECT.

#### To unlock the player temporarily

Press "4" and then press SELECT.

- The rating is unlocked temporarily only for the current disc or only until the player is set to the standby mode.

#### To finish setting without changing the rating level

Press "0".

Setting is finished and the initial settings screen is displayed.

Also refer to "Common procedures of initial settings" on page 32.

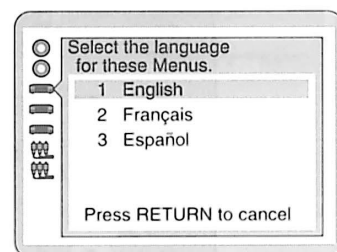
### Note:

- Some discs may not be encoded with specific rating level information though its disc jacket says that it is for "adults". For those discs, the age restriction will not work.

## Selecting language of On-Screen Display menu

This is to select the language to be used in the On-Screen Display menus which the player will show on the TV monitor.

- 1 At the initial settings screen (on page 32)  
Press the cursor buttons (▲, ▼) to select "3 Menu Language" and press SELECT.



- 2 Press the cursor buttons (▲, ▼) to select the preferred language and press SELECT.

- 1 English:  
English is selected. (Factory preset)
- 2 Français/3 Español:  
Each language is selected.

Setting is finished and the initial settings screen is displayed.

Also refer to "Common procedures of initial settings" on page 32.



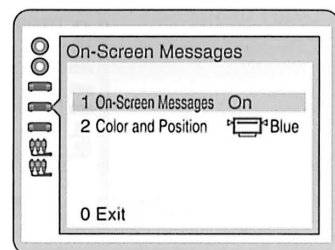


## Initial settings

### Selecting the display format of the On-Screen Display

You can select whether "Play", "Still" and other displays will be displayed or not, and the color and position of "Play", "Still" and other displays as well as On-Screen Menu Icons.

- 1** At the initial settings screen (on page 32)  
Press the cursor buttons (▲, ▼) to select "4 On-Screen Messages" and press **SELECT**.



- 2** Press the cursor buttons (▲, ▼) to select the preferred item and press **SELECT**.

- 1 On-Screen Messages:**  
To select whether "Play", "Still" and other displays are displayed or not.
- 2 Color and Position:**  
To select the color (Blue/Violet/Green) and position (above/slightly below) of "Play", "Still" and other displays as well as On-Screen Menu Icons.







- 3** Press the cursor buttons (▲, ▼) to select the preferred setting and press **SELECT**.

When "1 On-Screen Messages" is selected

- 1 On:** "Play", "Still" and other displays will always appear on the TV screen. (Factory preset)
- 2 Off:** "Play", "Still" and other displays will not appear on the TV screen.

When "2 Color and Position" is selected


The colors and positions are set as follows:

- 1**  Blue (Factory preset)
- 2**  Violet
- 3**  Green
- 4**  Blue
- 5**  Violet
- 6**  Green

The screen illustrated in step 1 is displayed. Select "0" by using the cursor buttons (▲, ▼) and press SELECT to return to the initial settings screen.

Also refer to "Common procedures of initial settings" on page 32.

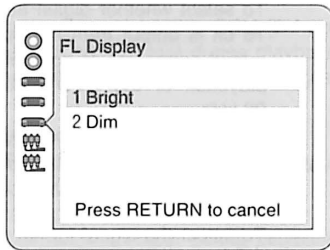
#### For your reference:

- When  is selected, "Play", "Still" and other displays as well as On-Screen Menu Icons will be displayed at a little lower position than the factory setting. It is recommended to choose this setting in such a case that the screen is only partially displayed.

### Selecting the FL display brightness

This is to select the brightness of the player's FL display.

- 1 At the initial settings screen (on page 32)  
Press the cursor buttons (▲, ▼) to select "5 FL Display" and press SELECT.



- 2 Press the cursor buttons (▲, ▼) to select the preferred item and press SELECT.

- 1 Bright:  
The FL display will always be bright. (Factory preset)
- 2 Dim:  
The FL display will always be dimmed.

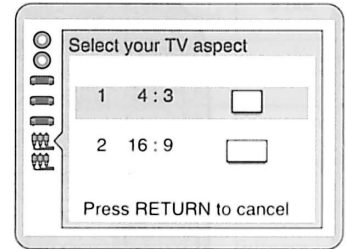
Setting is finished and the initial settings screen is displayed.

Also refer to "Common procedures of initial settings" on page 32.

### Selecting TV screen type

Select the TV aspect, conventional size screen (4:3) or wide-screen (16:9), according to your TV set.

- 1 At the initial settings screen (on page 32)  
Press the cursor buttons (▲, ▼) to select "6 TV Aspect" and press SELECT.



- 2 Press the cursor buttons (▲, ▼) to select the TV aspect and press SELECT.

- 1 4:3  
Select when a conventional TV set is connected.  
(Factory preset)
- 2 16:9  
Select when a wide-screen TV set is connected.

Setting is finished and the initial settings screen is displayed.

Also refer to "Common procedures of initial settings" on page 32.

#### For your reference:

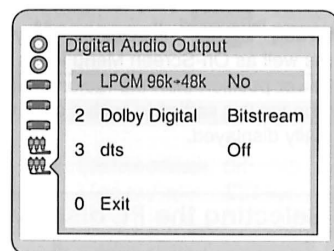
- For further details on the images which appear on the TV screen (aspect ratios of the screen), see page 43.

## Initial settings

### Selecting digital output

Select the digital output to be output from the optical/coaxial digital audio output connector of the player.

- 1 At the initial settings screen (on page 32)  
Press the cursor buttons (▲, ▼) to select  
“7 Digital Audio Output” and press  
SELECT.



- 2 Press the cursor buttons (▲, ▼) to select  
the preferred item and press SELECT.

**1 LPCM 96k→48k:**

To select whether digital audio converted to 48 kHz/16 bit is output from the optical/coaxial digital audio output connector or no digital audio is output during playback of the DVD recorded in Linear PCM of 96 kHz.

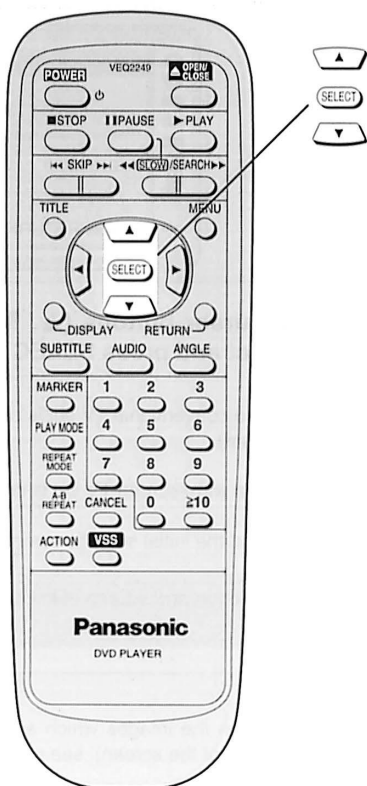
(In case of the DVD recorded in Linear PCM of 48 kHz, digital audio converted to 48 kHz/16 bit is output irrespective of the setting.)

**2 Dolby Digital:**

To select the signal format (Bitstream or PCM) to be output from the optical/coaxial digital audio output connector during playback of the DVD recorded in Dolby Digital (AC-3).

**3 dts:**

To select whether dts bitstream is output from the optical/coaxial digital audio output connector or no digital audio is output during playback of the DVD recorded in dts.



### 3 Press the cursor buttons (▲, ▼) to select the preferred value and press SELECT.

#### When "1 LPCM 96k→48k" is selected

- 1 **No**: Digital audio of 48 kHz/16 bit is output during playback of the DVD recorded in Linear PCM of 48 kHz. No digital audio is output during playback of the DVD recorded in Linear PCM of 96 kHz. However, audio will be output using the original audio recording system in case of the DVD which has not been copyright-protected. (Factory preset)
- 2 **Yes**: During playback of the DVD recorded in Linear PCM of 48 kHz or 96 kHz, digital audio converted to 48 kHz/16 bit is output. (Digital output of PCM audio is restricted to 48 kHz/16 bit or below for copyright protection.)

#### When "2 Dolby Digital" is selected

- 1 **Bitstream**<sup>\*1</sup>: Dolby Digital (AC-3) bitstream (1ch–5.1ch) is output during playback of the DVD recorded in the Dolby Digital (AC-3). (Factory preset)  
Select this setting when the player is connected to the Dolby Digital (AC-3) decoder.
- 2 **PCM**: Digital audio converted to PCM (2ch) of 48 kHz/16 bit is output during playback of the DVD recorded in the Dolby Digital (AC-3).

#### When "3 dts" is selected

- 1 **Off**: No digital audio is output during playback of the DVD recorded in dts. (Factory preset)
- 2 **Bitstream**<sup>\*1</sup>: dts bitstream is output during playback of the DVD recorded in dts. Select this setting when the player is connected to the dts decoder.

The screen illustrated in step 1 is displayed. Select "0" by using the cursor buttons (▲, ▼) and press SELECT to return to the initial settings screen.

Also refer to "Common procedures of initial settings" on page 32.

### Recommended setting of "Digital Audio Output"

Make settings as shown in table below depending on the kind of equipment that is connected to the optical/coaxial digital audio output connector.

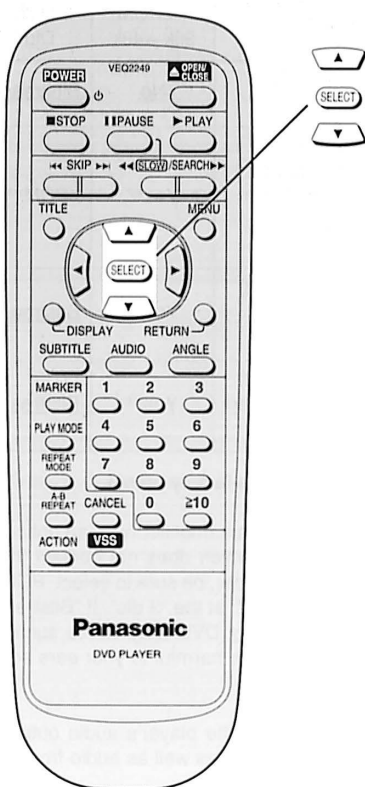
Type of equipment to be connected	Recommended setting		
	1 LPCM 96k→48k	2 Dolby Digital	3 dts
No equipment is connected	<u>No</u>	<u>Bitstream</u>	<u>Off</u>
AV amplifier (with digital audio input connector) without Dolby Digital/dts decoder	Yes <sup>*2</sup>	PCM <sup>*1</sup>	<u>Off</u> <sup>*1</sup>
Dolby Digital (AC-3) decoder (See page 14.)	Yes <sup>*2</sup>	<u>Bitstream</u>	<u>Off</u>
Dolby Digital (AC-3) decoder/dts decoder (See page 14.)	Yes <sup>*2</sup>	<u>Bitstream</u>	Bitstream

● Underlined item is a factory preset.

<sup>\*1</sup> When connecting an amplifier (with an optical/coaxial digital input connector) which does not contain the Dolby Digital (AC-3) or dts decoder, be sure to select "PCM" at the "2 Dolby Digital" and "Off" at the "3 dts". If "Bitstream" is selected, any attempt to play DVD may cause such a high level of noise that it may be harmful to your ears and damage your speakers.

<sup>\*2</sup> Audio output from the player's audio output connectors is converted to 48 kHz as well as audio from the digital audio output connector.

To enjoy high quality sound at 96 kHz, connect the amplifier or decoder directly to the audio output connectors, not to the digital audio output connector. (Select "No" at the "1 LPCM 96k→48k".)

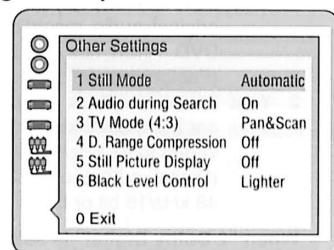


## Initial settings

### Other settings

Compression of the sound's dynamic range and other special settings can be performed.

- 1** At the initial settings screen (on page 32)  
Press the cursor buttons (**▲**, **▼**) to select  
"9 Other Settings" and press **SELECT**.



- 2** Press the cursor buttons (**▲**, **▼**) to select  
the preferred item and press **SELECT**.

- 1 Still Mode:**  
To select "Field still" or "Frame still" to prevent jittering from occurring or to let small text or fine patterns seen clearly in the still picture mode.
- 2 Audio during Search:**  
To select whether audio is heard during search at the initial scan speed or not.
- 3 TV Mode (4:3):**  
To select whether the video material for a wide-screen will be played back in the Pan & Scan style or in the Letterbox style on a conventional size TV.
- 4 D. (Dynamic) Range Compression:**  
To select the dynamic range during playback.
- 5 Still Picture Display:**  
To select whether the picture type (I/P/B) is displayed on the TV screen in the still picture mode or not.
- 6 Black Level Control:**  
To select the black level of the picture, "Lighter" or "Darker".

- 3** Press the cursor buttons (**▲**, **▼**) to select  
the preferred value and press **SELECT**.

When "1 Still Mode" is selected

- 1 Automatic:** "Field still" and "Frame still" are automatically selected in the still picture mode. (Factory preset)
- 2 Field:** "Field still" is always selected. Select this setting when jittering occurs in the pictures even when "1 Automatic" is selected.
- 3 Frame:** "Frame still" is always selected. Select this setting when small text or fine patterns cannot be seen clearly even when "1 Automatic" is selected.

#### When "2 Audio during Search" is selected

- 1 **On:** Audio will be heard during search at the initial scan speed. (Factory preset)  
(When audio during search at the initial scan speed is not desired, select "Off".)
- 2 **Off:** Select this setting when audio during search at the initial scan speed is not desired.

#### When "3 TV Mode (4:3)" is selected

- 1 **Pan & Scan:** The video material for a wide-screen will be played back in the Pan & Scan style on a conventional size TV.  
(Factory preset)
  - Video material not formatted in the Pan & Scan style will be played back in the letterbox style. (See page 43.)
- 2 **Letterbox:** The video material for a wide-screen will be played back in the letterbox style on a conventional size TV.

#### When "4 D. (Dynamic) Range Compression" is selected

- 1 **Off:** Normal audio range is selected. (Factory preset)
- 2 **On:** Select this setting to enjoy listening to dynamic sound even on a low volume.  
Dynamic range is the difference in volume between the quietest and loudest sounds heard. Dynamic Compression limits level for listening at low volume. This is useful late at night, for example.  
[This function only works with Dolby Digital (AC-3) DVD.]

#### When "5 Still Picture Display" is selected

- 1 **Off:** The picture type (I/P/B) will not be displayed on the TV screen in the still picture mode.  
(Factory preset)
- 2 **On:** The picture type (I/P/B) will be displayed on the TV screen in the still picture mode.

#### When "6 Black Level Control" is selected

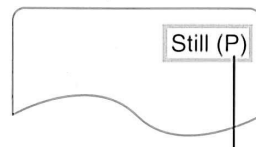
- 1 **Lighter:** The black level of the picture is selected to the lighter one.  
Select this setting normally when the player is connected to a TV set through the VIDEO OUT connector or S VIDEO OUT connector. (Factory preset)
- 2 **Darker:** The black level of the picture is selected to the darker one.  
Select this setting normally when the player is connected to a TV set through the COMPONENT VIDEO OUT (Y, P<sub>B</sub>, P<sub>R</sub>) connector.

The screen illustrated in step 1 is displayed. Select "0" by using the cursor buttons (▲, ▼) and press SELECT to return to the initial settings screen.

Also refer to "Common procedures of initial settings" on page 32.

#### For your reference:

- When the "2 On" is selected at the "5 Still Picture Display", the following screen is displayed in the still picture mode;



Example: in the case of the P-Picture

#### •I/P/B:

The MPEG 2 standard adopted for DVD uses the following 3 picture types for the coding of each picture (frame) on the TV screen.

##### I: I-Picture (Intra coded picture)

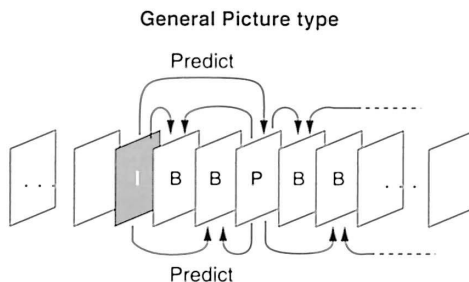
This is the standard picture type, and each picture is coded separately. Since it features the best picture quality, it is recommended that the screen be frozen with I-Picture when the picture quality is to be adjusted.

##### P: P-Picture (Predictive coded picture)

This picture type is computed on the basis of a past I-Picture or P-Picture.

##### B: B-Picture (Bidirectionally-predictive coded picture)

This picture type is computed by comparing the previous and subsequent I-Picture or P-Picture. It has the lowest volume of information.




















## Language code list

Enter the appropriate code number for the initial settings "Audio", "Subtitle" and/or "Menus" (see page 33).

Code	Language	Code	Language	Code	Language	Code	Language
6565	Afar	7079	Faroese	7678	Lingala	8375	Slovak
6566	Abkhazian	7082	French	7679	Laothian	8376	Slovenian
6570	Afrikaans	7089	Frisian	7684	Lithuanian	8377	Samoa
6577	Ameharic	7165	Irish	7686	Latvian, Lettish	8378	Shona
6582	Arabic	7168	Scots Gaelic	7771	Malagasy	8379	Somali
6583	Assamese	7176	Galician	7773	Maori	8381	Albanian
6588	Aymara	7178	Guarani	7775	Macedonian	8382	Serbian
6590	Azerbaijani	7185	Gujarati	7776	Malayalam	8385	Sundanese
6665	Bashkir	7265	Hausa	7778	Mongolian	8386	Swedish
6669	Byelorussian	7273	Hindi	7779	Moldavian	8387	Swahili
6671	Bulgarian	7282	Croatian	7782	Marathi	8465	Tamil
6672	Bihari	7285	Hungarian	7783	Malay	8469	Telugu
6678	Bengali; Bangla	7289	Armenian	7784	Maltese	8471	Tajik
6679	Tibetan	7365	Interlingua	7789	Burmese	8472	Thai
6682	Breton	7378	Indonesian	7865	Nauru	8473	Tigrinya
6765	Catalan	7383	Icelandic	7869	Nepali	8475	Turkmen
6779	Corsican	7384	Italian	7876	Dutch	8476	Tagalog
6783	Czech	7387	Hebrew	7879	Norwegian	8479	Tonga
6789	Welsh	7465	Japanese	7982	Oriya	8482	Turkish
6865	Danish	7473	Yiddish	8065	Punjabi	8484	Tatar
6869	German	7487	Javanese	8076	Polish	8487	Twi
6890	Bhutani	7565	Georgian	8083	Pashto, Pushto	8575	Ukrainian
6976	Greek	7575	Kazakh	8084	Portuguese	8582	Urdu
6978	English	7576	Greenlandic	8185	Quechua	8590	Uzbek
6979	Esperanto	7577	Cambodian	8277	Rhaeto-Romance	8673	Vietnamese
6983	Spanish	7578	Kannada	8279	Romanian	8679	Volapük
6984	Estonian	7579	Korean	8285	Russian	8779	Wolof
6985	Basque	7583	Kashmiri	8365	Sanskrit	8872	Xhosa
7065	Persian	7585	Kurdish	8368	Sindhi	8979	Yoruba
7073	Finnish	7589	Kirghiz	8372	Serbo-Croatian	9072	Chinese
7074	Fiji	7665	Latin	8373	Singhalese	9085	Zulu

## Concerning images which appear on the TV screen (aspect ratios of the screen)

Images which appear on the TV screen differ depending on the type of software and the TV set connected.

Type of software	TV set connected (Screen mode)			
	4:3	16:9 ("FULL" mode)	16:9 ("ZOOM" mode)	16:9 ("AUTO" mode)
<b>Software for wide-screen (formatted in the Pan &amp; Scan style)</b> 	Screen whose right and left edges are cut off 	Full screen 	Screen whose top and bottom edges are cut off 	Full screen 
<b>Software for wide-screen (not formatted in the Pan &amp; Scan style)</b> 	Letterbox (with black bands at top and bottom) 			
<b>Software (4:3)</b> 	Full screen 	Screen horizontally enlarged 	Screen whose top and bottom edges are cut off 	Full screen (with black bands at right and left) 
<b>Software (4:3, Letterbox)</b> 	Letterbox (with black bands at top and bottom) 	Screen horizontally enlarged (with black bands at top and bottom) 	Full screen 	Screen in which the picture at the far left and far right ends only is extended horizontally (with black bands at top and bottom) 

• The images which appear on the TV screen, and what each screen mode is called, may differ depending on the manufacturer of the TV set or on the type of the TV set. Consult the instruction manual provided with your TV set.

For your reference:

- **Letterbox**

Black bands are inserted at the top and bottom of the screen to fill in the gaps at the top and bottom where the size of the picture is smaller than the screen.

- **Pan & Scan**

Part of the wide-screen picture (either at both sides or one side of the screen) is automatically eliminated so that the picture fills the whole screen.



## Troubleshooting

Before requesting service for this player, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, consult your dealer for instructions.

[Consult PASC Authorized Servicenters for detailed instructions, call 1-888-PANA-DVD (1-888-726-2383) or visit our home address [www.panasonic.com/dvd](http://www.panasonic.com/dvd) for the address of an authorized factory servicenter.]

Symptom (Common)	Remedy
No power.	Insert the AC plug securely into the AC outlet.
The player is automatically set to the standby mode.	To conserve power, the player is automatically set to the standby mode after approx. 30 minutes have elapsed in the stop mode (Auto power-off function). Turn the power back to ON.
<ul style="list-style-type: none"> <li>• Play fails to start even when PLAY is pressed.</li> <li>• Play starts but then stops immediately.</li> </ul>	<ul style="list-style-type: none"> <li>• Condensation has formed: wait about 1 to 2 hours to allow the player to dry out.</li> <li>• This player cannot play a disc other than DVD, Video CD and CD.</li> <li>• The disc may be dirty and may require cleaning.</li> <li>• Ensure that the disc is installed with the label side to be played facing upwards.</li> </ul>
No picture.	<ul style="list-style-type: none"> <li>• Ensure that the equipment is connected properly.</li> <li>• Ensure that the VIDEO OUT SELECT switch is set to the appropriate position according to the TV set to be connected. (See page 8.)</li> <li>• Ensure that the input setting for the TV is "Video".</li> </ul>
<ul style="list-style-type: none"> <li>• No sound.</li> <li>• Distorted sound.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that the equipment is connected properly.</li> <li>• Ensure that the input settings for the TV and stereo system are correct.</li> </ul>
Picture is distorted during rapid advance or rapid reverse.	The picture will be somewhat distorted at times: this is normal.
No key operation (by the main unit and/or the remote control unit) is effective.	<ul style="list-style-type: none"> <li>• Some operations may be prohibited by the disc.</li> <li>• Press POWER to set the player to the standby mode and then back to ON. Alternatively, press POWER to set the player to the standby mode, disconnect the AC plug and then re-connect it. (The player may not be operating properly due to lightning, static electricity or some other external factor.)</li> </ul>
No 4:3 (16:9) picture.	Choose the correct setup "6 TV Aspect" item which matches the TV set used.
No on-screen display.	The "Off" setting is selected for "1 On-Screen Messages" in "4 On-Screen Messages": select "On".
No operations can be performed with the remote control unit.	<ul style="list-style-type: none"> <li>• To conserve power, the player is automatically set to the standby mode after approx. 30 minutes have elapsed in the stop mode (Auto power-off function). Turn the power back to ON.</li> <li>• Check the batteries are installed with the correct polarities (+ and -).</li> <li>• The batteries are depleted: replace them with new ones.</li> <li>• Point the remote control unit at the remote control sensor and operate.</li> <li>• Operate the remote control unit at a distance of not more than 23 feet (7 meters) from the remote control sensor.</li> <li>• Remove the obstacles between the remote control unit and remote control sensor.</li> </ul>
On-Screen Menu Icons not displayed or only partially displayed on the TV screen.	Change the position of the On-Screen Menu Icons using "2 Color and Position" in "4 On-Screen Messages" of the initial settings.
If you cannot solve your problem.	For customer service, please contact the Panasonic Customer Care Call Center at 1-888-PANA-DVD (1-888-726-2383) or visit our home address <a href="http://www.panasonic.com/dvd">www.panasonic.com/dvd</a> for further assistance.

Symptom (DVD)	Remedy
No subtitles.	<ul style="list-style-type: none"> <li>• Subtitles appear only with discs which contain them.</li> <li>• Subtitles are cleared from the TV monitor. Perform the steps on page 29 to display the subtitles.</li> </ul>

Symptom (DVD)	Remedy
Alternative audio soundtrack (or subtitle) languages fail to be selected.	<ul style="list-style-type: none"> <li>• An alternative language is not selected with discs which do not contain more than one language.</li> <li>• In the case of some discs, the alternative language cannot be selected by operating the AUDIO or SUBTITLE button. Try selecting it from the DVD menu if one is available.</li> </ul>
Angle cannot be changed.	This function is dependent on software availability. Even if a disc has a number of angles recorded, these angles may be recorded for specific scenes only (when "ANGLE" lights up on the player's FL display).
Play does not start even when title is selected.	Confirm the "2 Ratings" setting.
Audio soundtrack and/or subtitle language is not the one selected at the initial settings.	If the audio soundtrack and/or subtitle language does not exist on the disc, the language selected at the initial settings will not be seen/heard.
The menu is displayed in French (example).	The setup "3 Menus" of "1 Disc Languages" is set to French: select English.
The password for rating level has been forgotten. <b>Reset all the settings to Factory Preset.</b>	While the player is in the stop mode, hold the player's SKIP/SEARCH (◀◀/▶▶) button and the PAUSE button down simultaneously and then hold the OPEN/CLOSE button down for longer than 3 seconds (until "Initialized" disappears from the TV monitor). The lock will be released and all initial settings will return to the default values.

Symptom (Video CD)	Remedy
No menu play.	This function works only for Video CDs with playback control.

## Self-diagnosis display function

When an error or trouble is detected during operation, a service number appears in the FL display.  
When a service number appears, check out the details given below.

Service number	Player status	Remedy
U I I	Disc is dirty.	Wipe the disc clean.
H □ □ □ □ stands for a number.	Trouble is likely to have occurred. The number following "H" differs depending on the status of the player.	Press POWER to set the player to the standby mode and then back to ON. Alternatively, press POWER to set the player to the standby mode, disconnect the AC plug, and then re-connect it.

• If the service number fails to be cleared even when the remedial action is taken, ask the service technician to repair the player.

### Product service

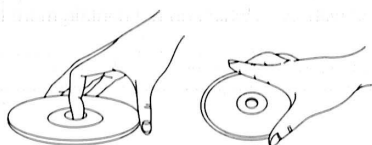
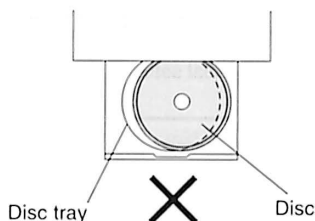
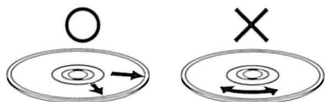
Do not attempt to remove the cover(s) or repair the player yourself. Refer servicing to qualified personnel only.

### Product information

For product service, product information or assistance with product operation, refer to the service center directory.

### If you ship the product

Carefully pack and send it prepaid, adequately insured and preferably in the original carton. Attach a postage-affixed letter, detailing the complaint, to the outside of the carton. *DO NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.*

**A****B****C**

## Disc handling and maintenance

### Handling precautions

- Hold the disc by the edges so the surface will not be soiled with fingerprints. **(A)**  
Fingerprints, dirt and scratches can cause skipping and distortion.
- Do not write on the label side with a ball-point pen or other writing utensils.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Be careful not to drop or bend the disc.
- Do not install more than 1 disc on the disc tray.
- Do not try to close the disc tray when the disc is not installed properly. **(B)**
- Be sure to store the disc in its exclusive case when not in use.

### If the surface is soiled **(B)**

Wipe gently with a soft, damp (water only) cloth.

When wiping discs, always move the cloth from the center hole toward the outer edge.

(If you wipe the discs using a circular motion, circular scratches are likely to occur, which will cause noise.)

### If the disc is brought from a cold to a warm environment, moisture may form on the disc

Wipe this moisture off with a soft, dry, lint-free cloth before using the disc.

### Improper disc storage

You can damage discs if you store them in the following places:

- Areas exposed to direct sunlight
- Humid or dusty areas
- Areas directly exposed to a heat outlet or heating appliance

### Discs which cannot be played with this player

- DVD with Region No. other than "1" or "ALL"
- Disc of PAL system
- DVD-ROM
- DVD-R/DVD-RAM
- CD-ROM
- VSD
- CDV
- CD-G
- CD-RW
- DVD+RW
- CVD
- SVCD
- Divx Video Disc
- etc.

- Do not try to play Photo CD or CD-R.  
(Otherwise, data on the disc may be damaged.)

### Maintenance

- Be sure to press POWER to set the player to the standby mode and disconnect the AC cord before maintaining the player.
- Wipe this player with a dry, soft cloth.  
If the surfaces are extremely dirty, wipe clean with a cloth which has been dipped in a weak soap-and-water solution and wrung out thoroughly, and then wipe again with a dry cloth.
- Never use alcohol, benzine, thinner, cleaning fluid or other chemicals. And do not use compressed air to remove dust.

# 9 Assembling and Disassembling the Casing and Checking C.B.A.s

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[9.1 Disassembly Procedure](#)

[9.2 Casing Parts and C.B.A. Positions](#)

[9.3 Service Positions](#)

[9.4 Disassembling the Top Cover](#)

[9.5 Disassembling the Tray](#)

[9.6 Disassembling the Front Panel](#)

[9.7 Disassembling the Loading Base Unit](#)

[9.8 Checking the Module C.B.A.](#)

[9.9 Disassembling the Rear Panel,](#)

[9.10 Checking the Power Supply C.B.A.](#)

[9.11 Checking the Mother C.B.A.](#)

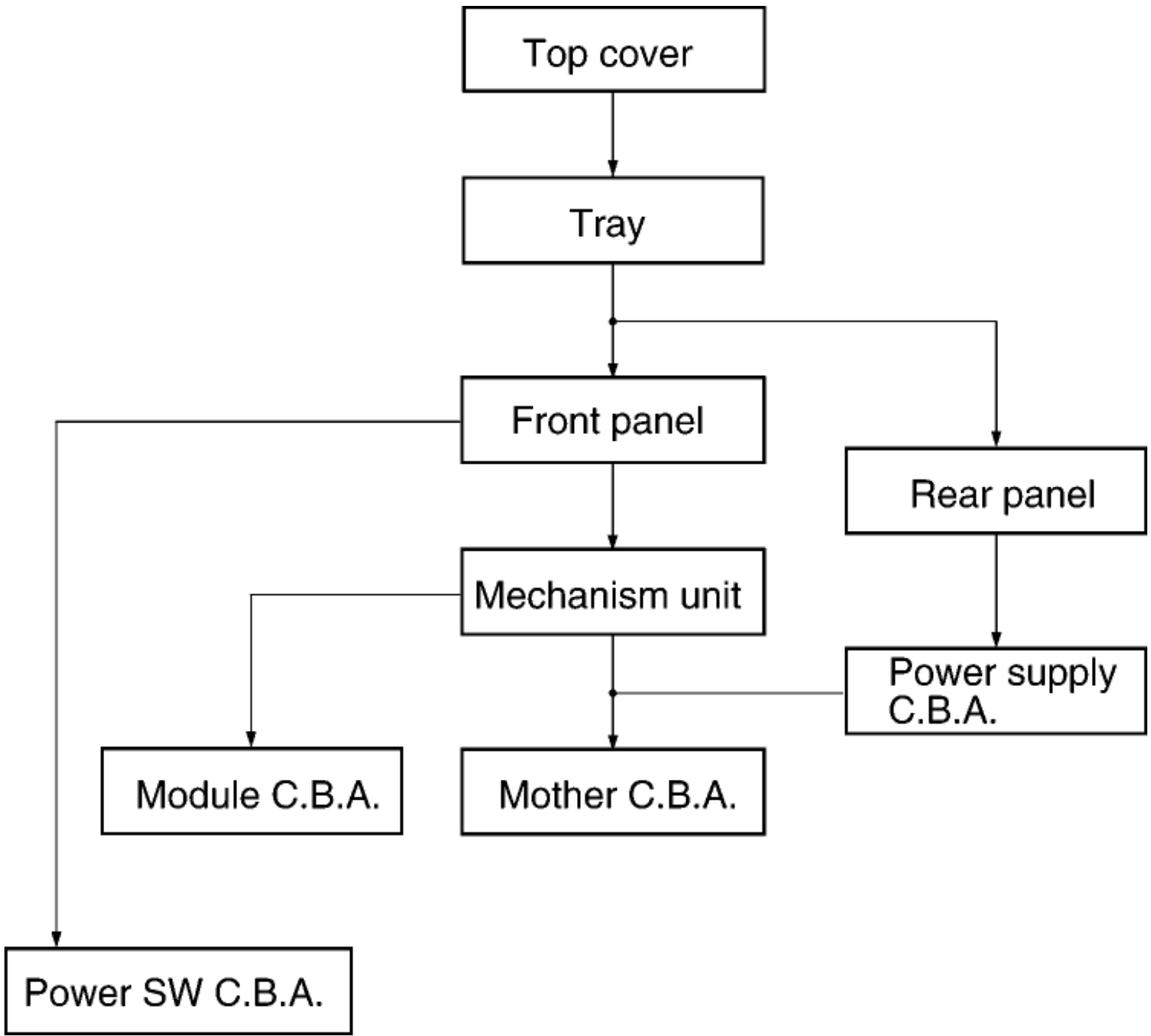
[9.12 Checking the Power Switch C.B.A.](#)

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# 9.1 Disassembly Procedure

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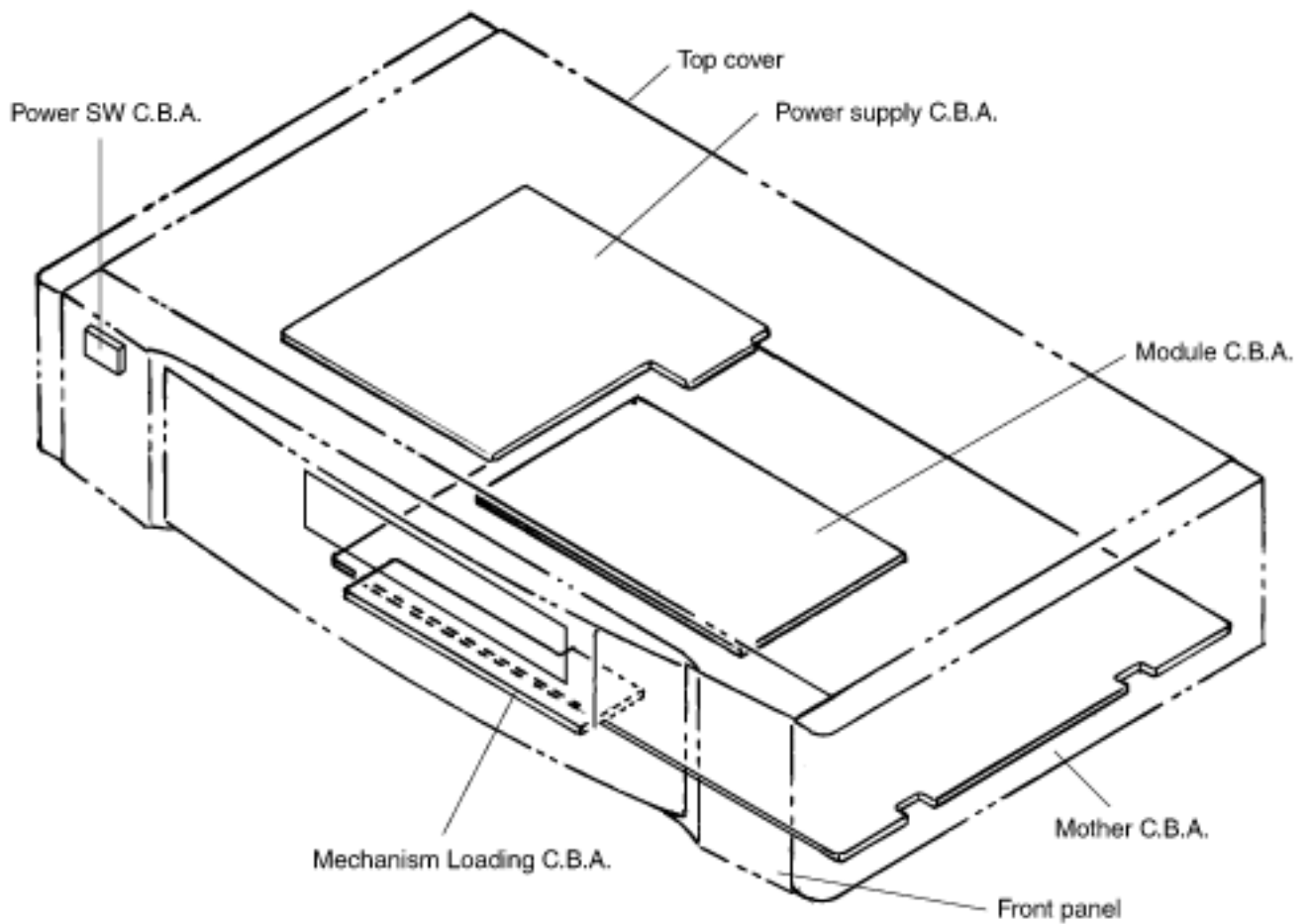
When servicing the unit, use the following procedure to disassemble the casing and inside parts for internal inspection.



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## 9.2 Casing Parts and C.B.A. Positions

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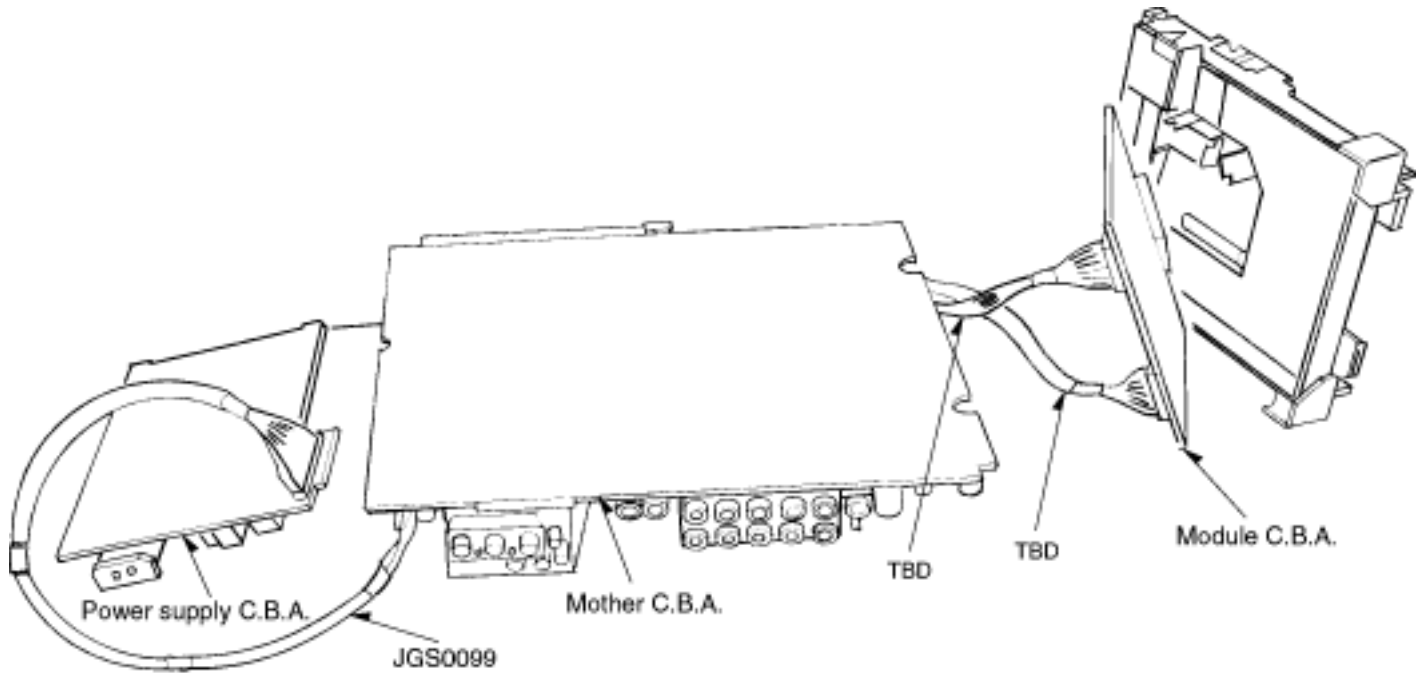
[TOP](#) [PREVIOUS](#) [NEXT](#)

## 9.3 Service Positions

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### Note

To inspect the loading base unit, position the left side upward (as viewed from the front).

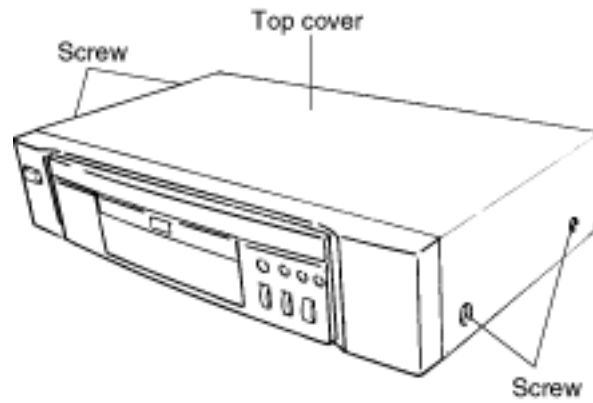


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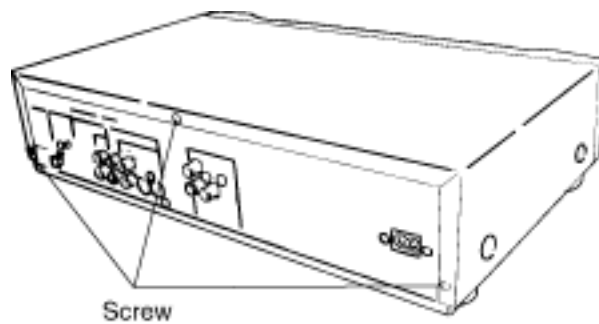
# 9.4 Disassembling the Top Cover

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1. Remove the 4 screws.



2. Remove the 3 screws.



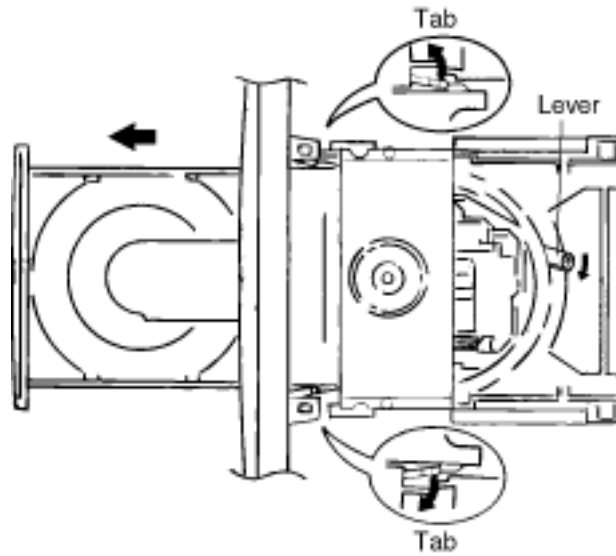
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# 9.5 Disassembling the Tray

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1. Turn the lever clockwise.
2. Move the tray in the direction of the arrow until it locks.
3. Release the tab locks on the left and right, then pull out the tray.

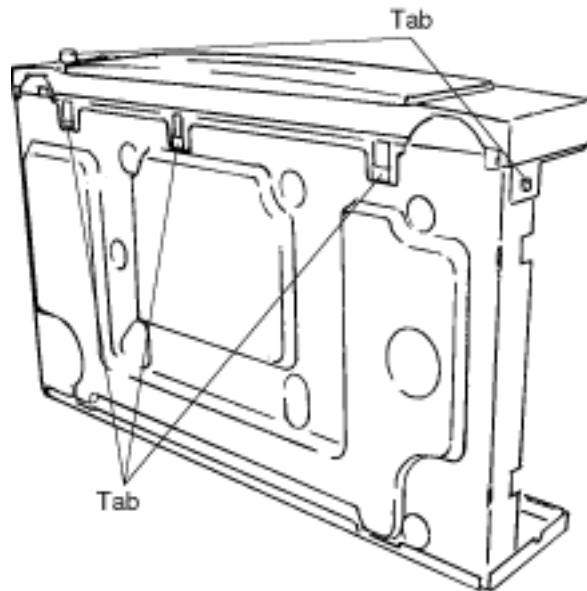


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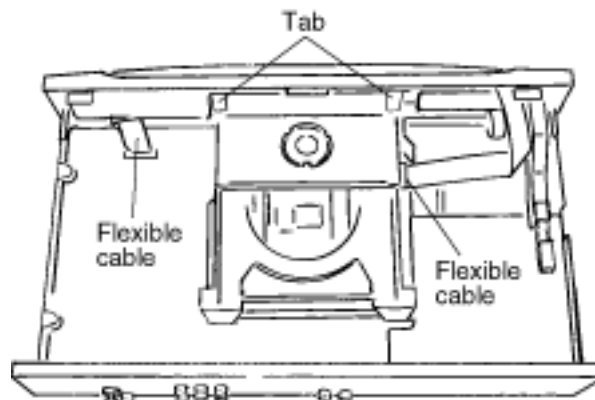
## 9.6 Disassembling the Front Panel

[TOP](#) [PREVIOUS](#) [NEXT](#)

1. Release the 3 tabs on the bottom.
2. Release the 2 tabs on the left and right.



3. Release the 2 tabs.
4. Disconnect the 2 flexible cables.



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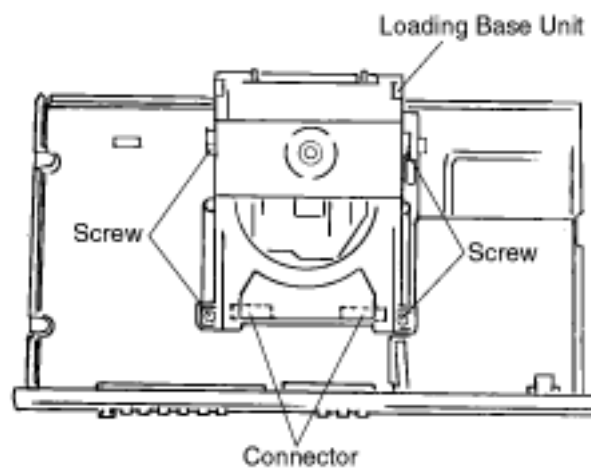
# 9.7 Disassembling the Loading Base Unit

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1. Remove the 4 screws.
2. Pull out the loading base unit vertically.

## Note

There is a danger of damaging the connectors.

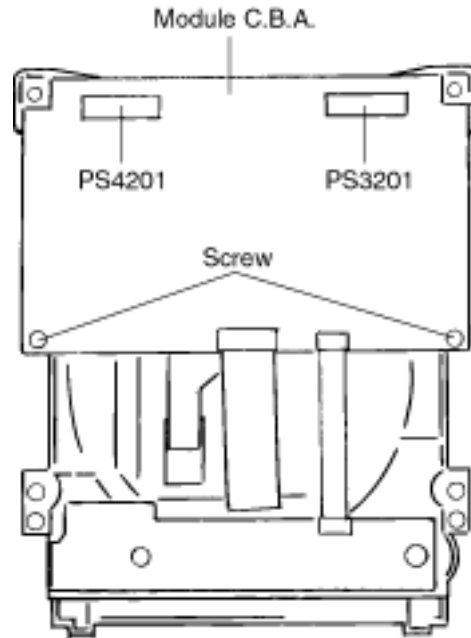


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# 9.8 Checking the Module C.B.A.

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1. Remove the 2 screws.

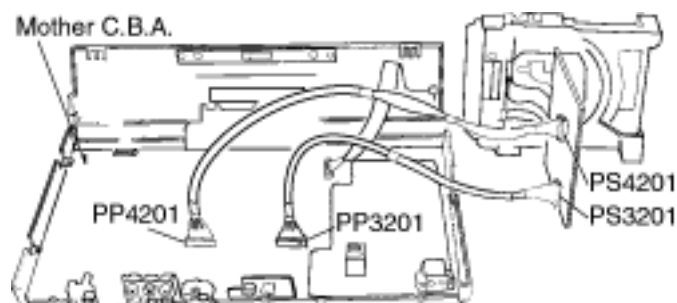


2. Connect the module C.B.A. to the mother C.B.A. with the extension cables for inspection.
3. Extension cables: TBD (two)

Mother C.B.A. Module C.B.A.

PP4201-PS4201

PP3201-PS3201



## Note

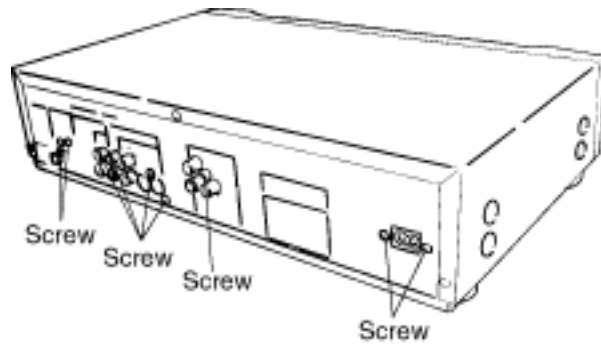
Be sure to initialize the player whenever you replace a C.B.A. (Refer to section 10.1, Initializing the DVD Player.)



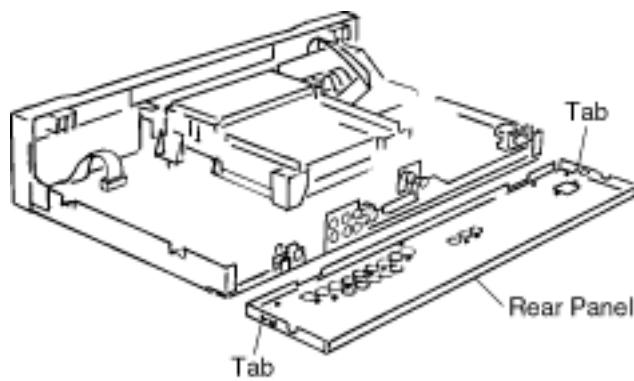
## 9.9 Disassembling the Rear Panel,

[TOP](#) [PREVIOUS](#) [NEXT](#)

1. Remove all of the screws connected to the rear panel. (The number of screws varies according to the model).



2. Release the two tabs on the left and right.

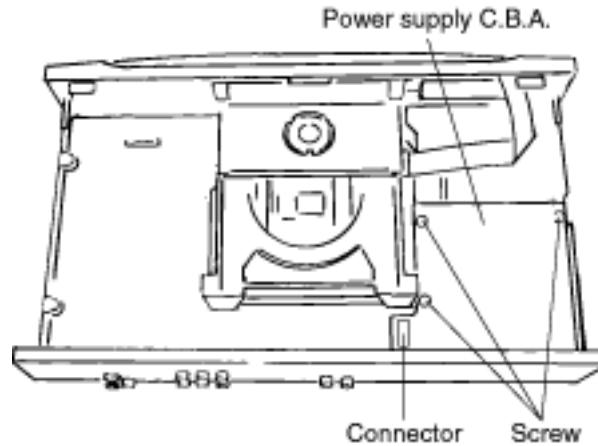


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# 9.10 Checking the Power Supply C.B.A.

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1. Remove the 3 screws.

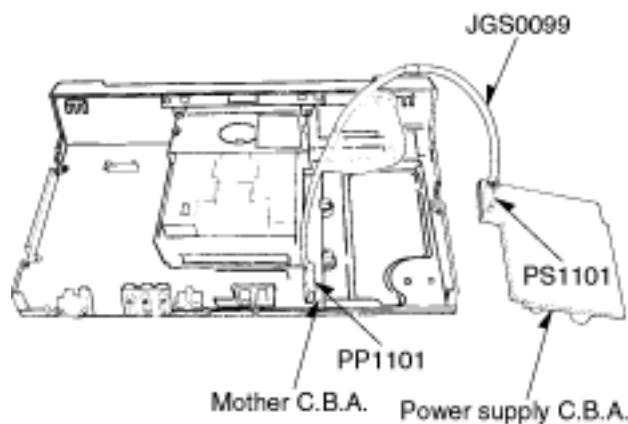


2. Carefully pull out the power supply C.B.A.

## Note

There is a danger of damaging the connectors.

3. Connect the power supply C.B.A. and the mother C.B.A. with the extension cable for inspection.
4. Extension cable: JGS0099 (connects the power supply C.B.A. PS1101 and the mother C.B.A. PS1101)

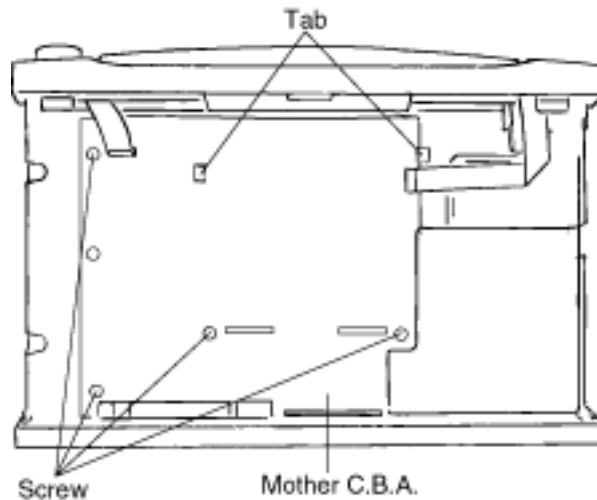


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# 9.11 Checking the Mother C.B.A.

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1. Remove the 5 screws.
2. Release the 2 tabs.

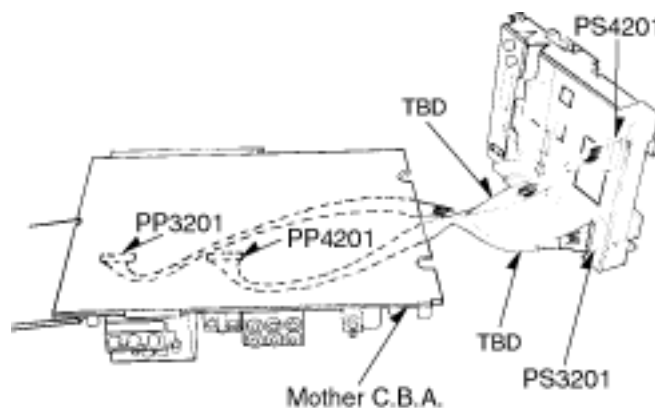


3. Checked by connecting the module C.B.A. and the mother C.B.A. with the extension cables./Extension cables: TBD (two)

Module C.B.A. Mother C.B.A.

PS3201-PP3201

PS4201-PP4201



## Note

Be sure to initialize the player whenever you replace a C.B.A. (Refer to section 10.1, Initializing the DVD player.)

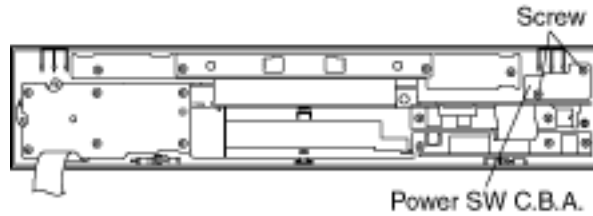




# 9.12 Checking the Power Switch C.B.A.

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1. Remove the 2 screws.



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# 10 Service Precautions

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[10.1 Initializing the DVD Player](#)

[10.1.1 Precautions](#)

[10.1.2 Initialization Method](#)

[10.2 Handling After Completing Repairs](#)

[10.2.1 Method](#)

[10.2.2 Precautions](#)

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# 10.1 Initializing the DVD Player

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Initialize the DVD player whenever you replace a microprocessor, microprocessor peripheral parts, module C.B.A or mother C.B.A.

[10.1.1 Precautions](#)

[10.1.2 Initialization Method](#)

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# 10.1.1 Precautions

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The customer settings will return to factory preset settings when the player is initialized. Make a note of the settings and reset them after initializing.

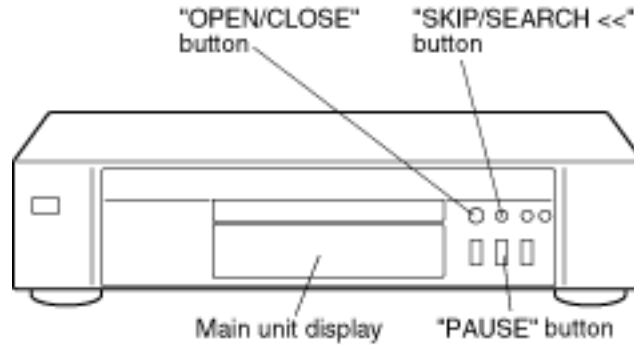
When resetting, see the Initial Settings in the Operating Instructions.

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# 10.1.2 Initialization Method

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The player will be initialized (return to the factory preset condition) when you press the "PAUSE," "SKIP/SEARCH<<" and "OPEN/CLOSE" buttons simultaneously. When the DVD player is initialized, "All Clear" appears on screen, it also displays "INITIALIZED".



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# 10.2 Handling After Completing Repairs

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Use the following procedure to secure the traverse unit in the standby position.

[10.2.1 Method](#)

[10.2.2 Precautions](#)

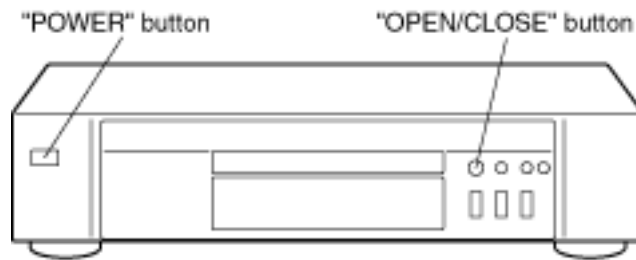
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# 10.2.1 Method

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With the power turned on:

1. Press the "OPEN/CLOSE" button to close the tray.
2. Press the "POWER" button to turn off the power.
3. Disconnect the power plug from the outlet.



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# 10.2.2 Precautions

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Do not disconnect the power plug from the outlet with the tray still open, then close the tray manually. If you were to do so, the traverse unit would not go to the upper (standby) position, and the player could not be transported.

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# 11 Assembling and Disassembling the Optical Pickup (Mechanical Parts)

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The optical pickup can be damaged by static electricity from your body. Be sure to take static electricity countermeasures when working around the optical pickup.

[11.1 Handling the Optical Pickup](#)

[11.2 Disassembly Procedure](#)

[11.3 Lubricating the Loading Base Unit](#)

[11.4 Static Electricity Countermeasures](#)

[11.4.1 Static Electricity Countermeasure Methods](#)

[11.4.2 Short-circuit the laser diode](#)

[11.5 Disassembling the Clamp Base Unit](#)

[11.6 Disassembling the Clamper Weight, Clamper Yoke, Magnet and Clamper](#)

[11.7 Disassembling the Traverse Unit](#)

[11.8 Disassembling the Stepping Motor Unit](#)

[11.9 Disassembling the Optical Pickup Unit](#)

[11.10 Disassembling the Nut Unit](#)

[11.11 Disassembling the Sub-Shaft Preload Spring](#)

[11.12 Assembling the Optical Pickup](#)

[11.13 Disassembling the Spindle Motor Unit](#)

[11.14 Optical Pickup Tilt Adjustment](#)

[11.15 Disassembling the Intermediate Chassis](#)

[11.16 Disassembling the Vertical cam and Drive gear](#)

[11.17 Disassembling the Pulley Gear and Deceleration Gear](#)

[11.18 Disassembling the Mechanism Loading C.B.A.](#)

[11.19 Lubricating the Optical Pickup and Peripheral Parts](#)

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# 11.1 Handling the Optical Pickup

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The optical pickup can be damaged by static electricity from your body. Be sure to take static electricity countermeasures when working around the optical pickup.

1. The optical pickup is an extremely high-precision mechanism. Do not subject it to strong impact.
2. To preserve the quality of the optical pickup replacement parts during transport and installation, the terminals of the laser diode are short-circuited. After replacing the parts, use the proper procedure to return the laser diode to its original condition. (Refer to section 11.12, Assembling the Optical Pickup.)
3. Testers cannot be used to check the laser diode of the optical pickup. The power supply inside the tester can easily damage the laser diode.
4. Take care when handling the flexible cable because excessive force can cause it to break.
5. You cannot adjust the semifixed resistor for laser power adjustment. Do not turn it.

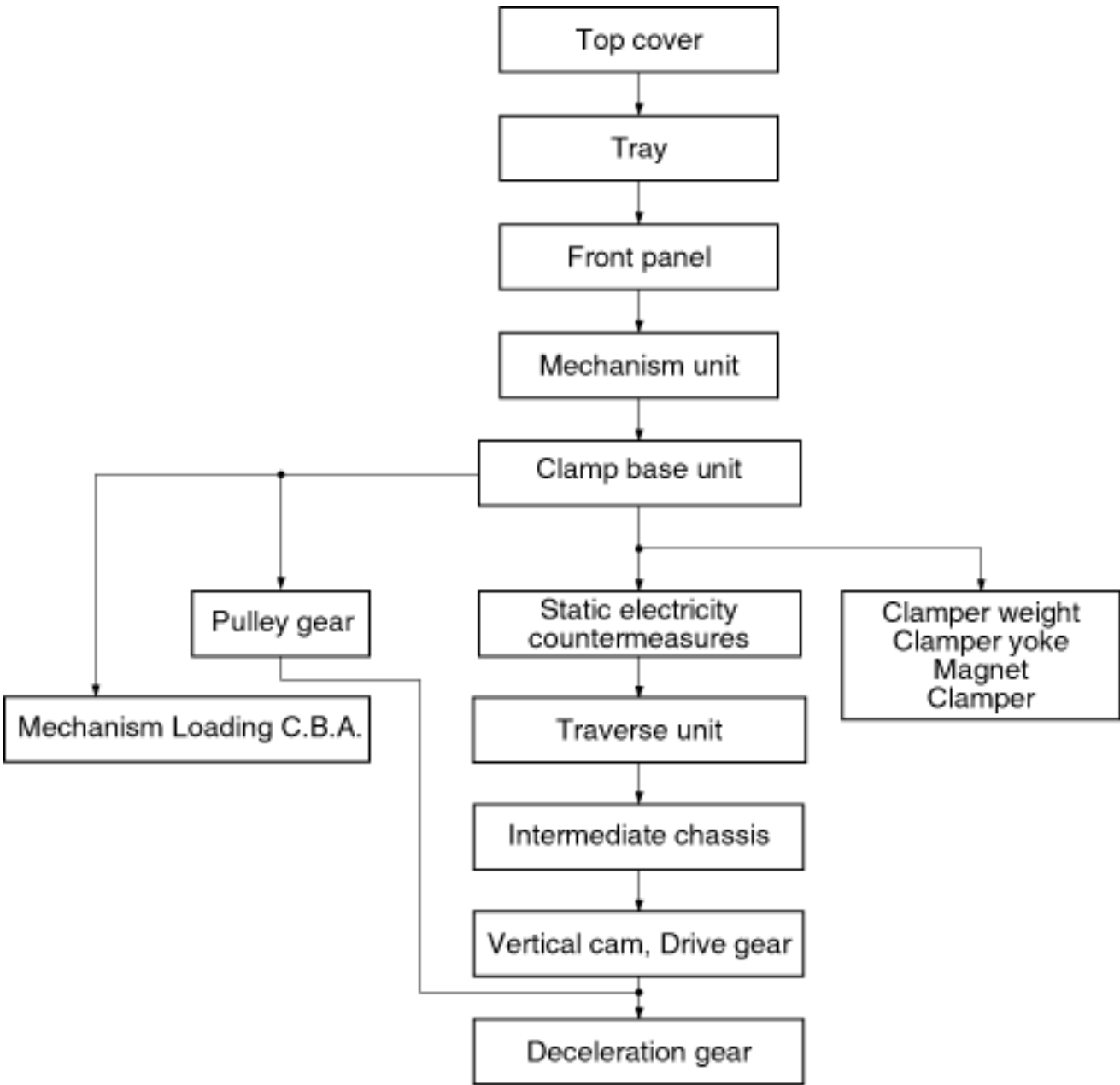
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# 11.2 Disassembly Procedure

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Use the following procedure to replace major parts.

For the assembly procedure, follow the flow chart in reverse.

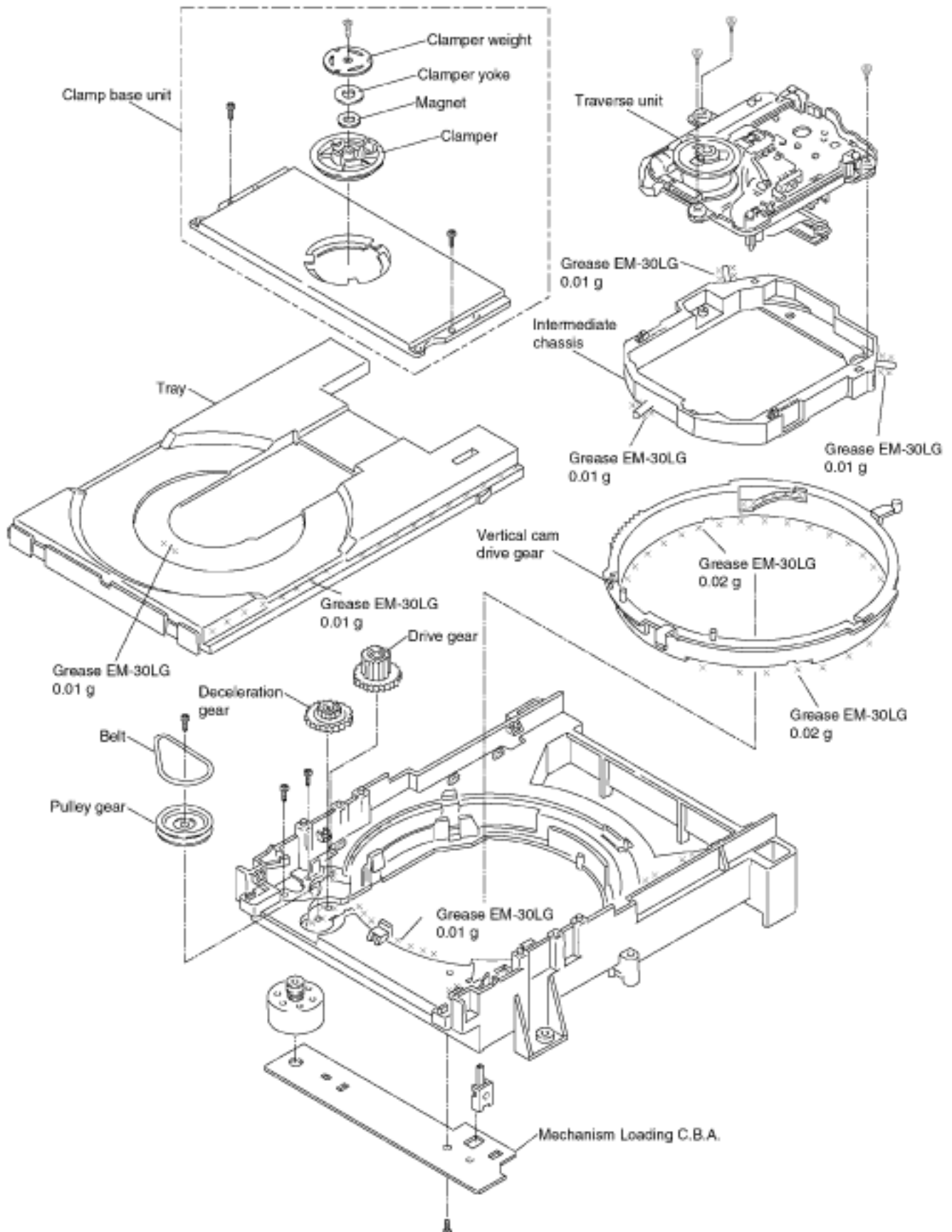


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# 11.3 Lubricating the Loading Base Unit

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When replacing parts, lubricate the parts marked "xxx" in the diagram



	Part number	Service Tool
Grease	JGS0091	Grease EM-30LG

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# 11.4 Static Electricity Countermeasures

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The laser diode inside the traverse unit (optical pickup) can be damaged by static electricity from your body. Be sure to take static electricity countermeasures when working around the optical pickup.

[11.4.1 Static Electricity Countermeasure Methods](#)

[11.4.2 Short-circuit the laser diode](#)

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# 11.4.1 Static Electricity Countermeasure Methods

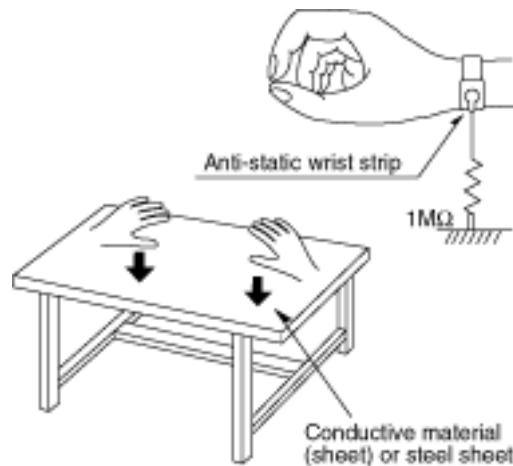
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## 1. Ground yourself

Use an anti-static wrist strap to discharge static electricity from your body.

## 2. Ground the workbench

Lay a conductive material (sheet) or steel sheet on the surface where the traverse unit (optical pickup) is to be placed, then ground the sheet.



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# 11.4.2 Short-circuit the laser diode

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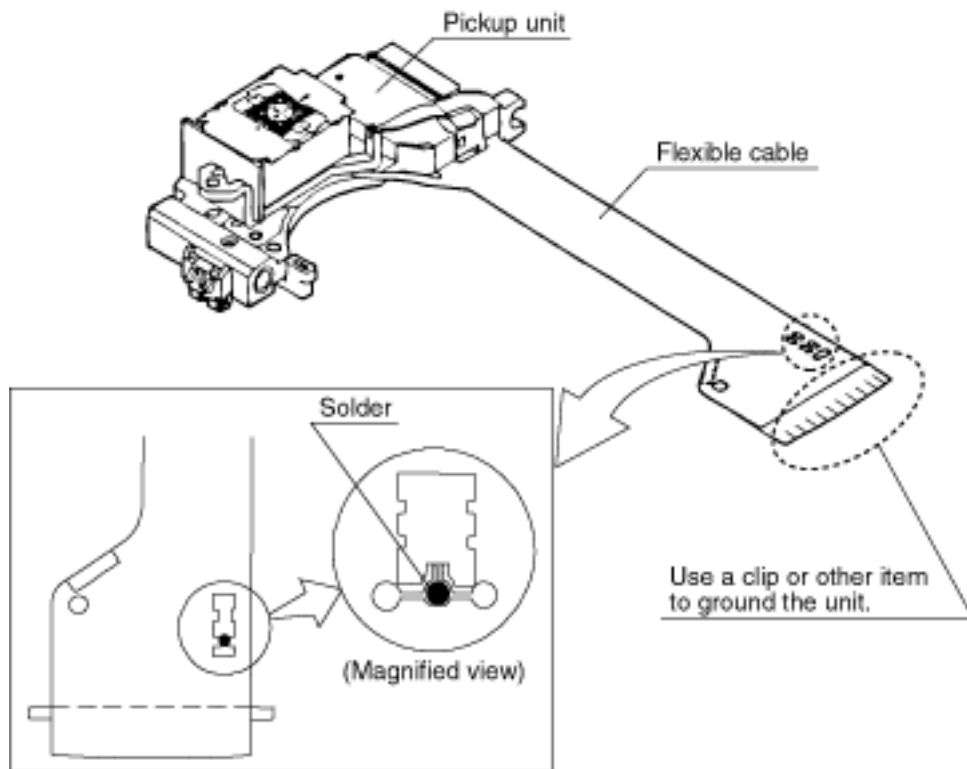
Solder the land in the flexible cable of the optical pickup.

## Notes

Be sure to do this before disconnecting the flexible cable of the optical pickup from the module C.B.A.

Use an anti-static soldering iron to short-circuit and unshort-circuit laser diode. (Recommended soldering iron: Hakko with ESD countermeasure)

After you have finished repairing the laser diode, follow the correct procedure to remove the solder from the short-circuit location. (Refer to section 11, Assembling and Disassembling the Optical Pickup (Mechanical Parts).)

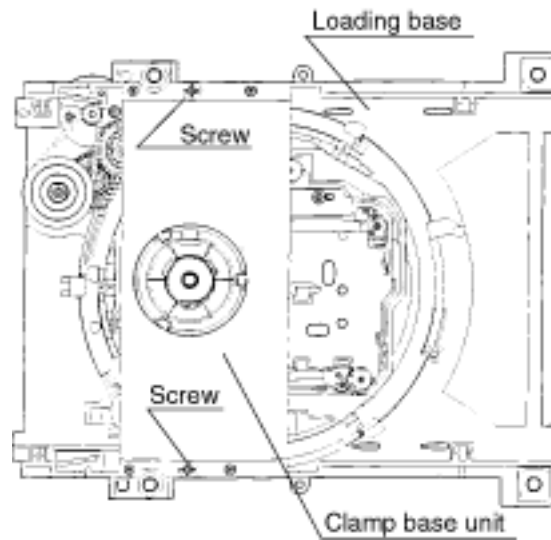


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# 11.5 Disassembling the Clamp Base Unit

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1. Remove the 2 screws.

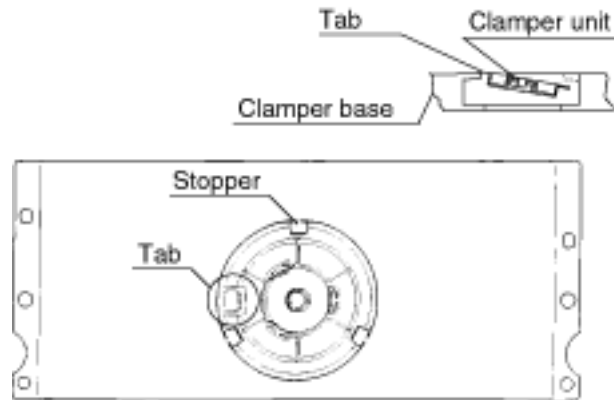


[TOP](#) [PREVIOUS](#) [NEXT](#)

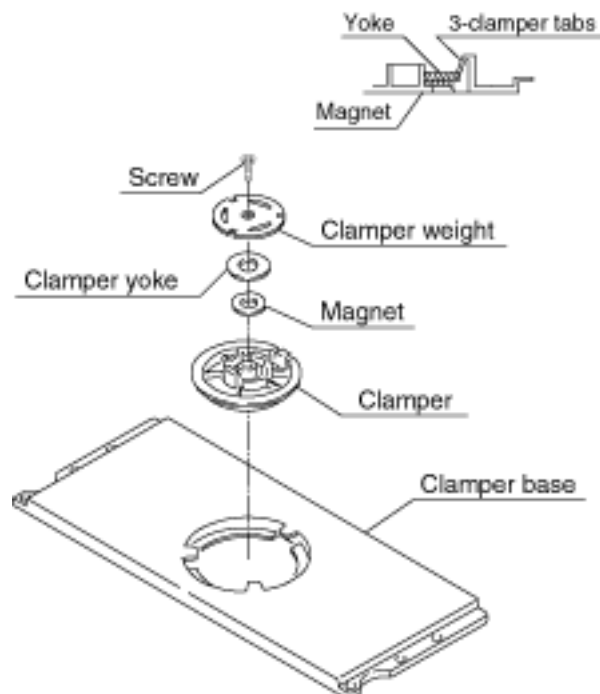
# 11.6 Disassembling the Clamper Weight, Clamper Yoke, Magnet and Clamper

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1. Release the tab, and pull out the clamper.



2. Release the 3 tabs on the clamper.

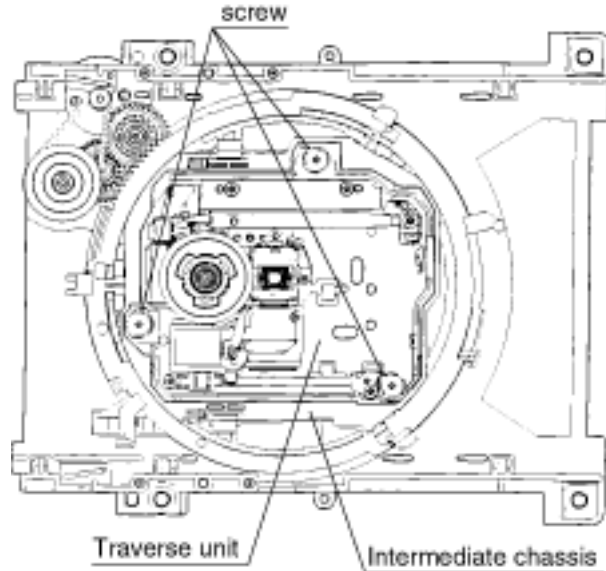


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# 11.7 Disassembling the Traverse Unit

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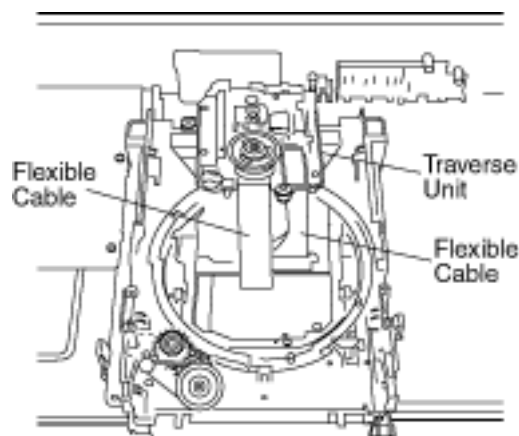
1. Remove the 3 screws.



## Note

Be sure to take static electricity countermeasures before disconnecting the flexible cable. (Refer to section 11.4, Static Electricity Countermeasures.)

2. Disconnect the 2 flexible cables.



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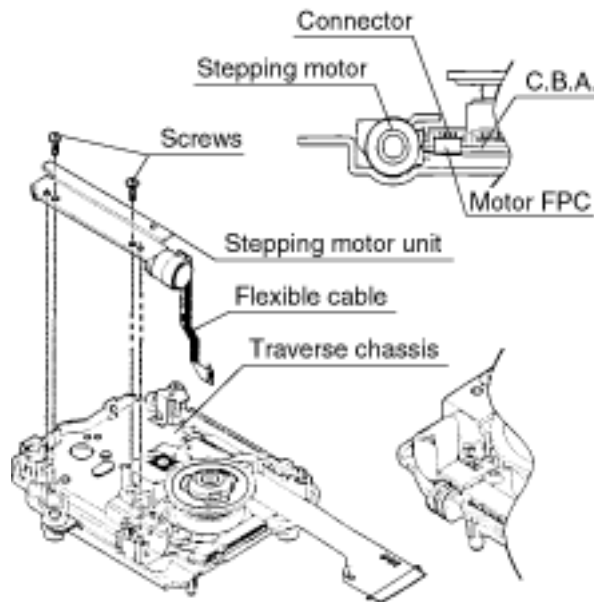
# 11.8 Disassembling the Stepping Motor Unit

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1. Disconnect the flexible cable.
2. Remove the 2 screws.

## Note

Take care when handling the flexible cable because it can be broken by excessive force.



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# 11.9 Disassembling the Optical Pickup Unit

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1. Remove the hook of the FPC holder, then remove the FPC holder itself.
2. Remove the screw.
3. Release the tab, then remove spring holder 1.

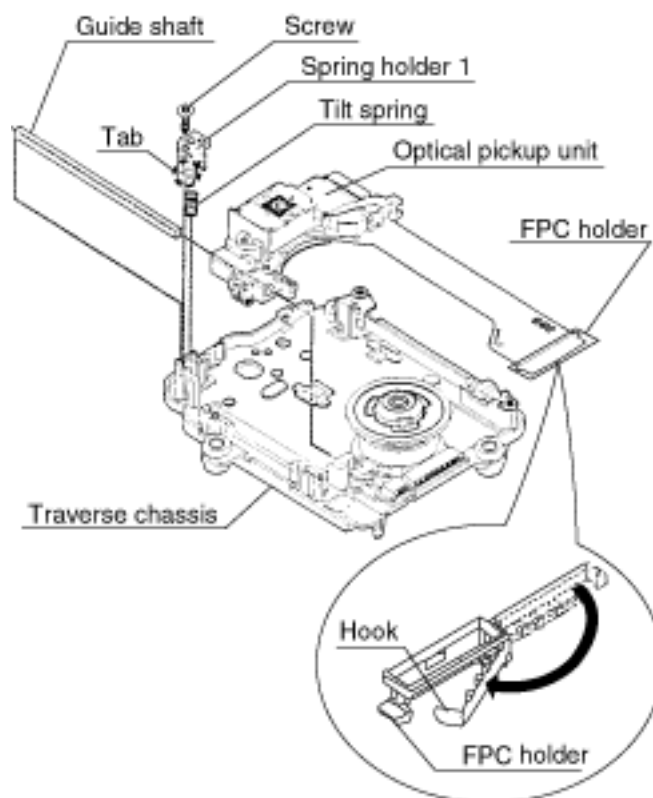
## Note

Be sure not to lose the spring.

4. Remove the guide shaft.

## Note

Be sure to adjust the optical pickup tilt after replacing the optical pickup. (Refer to section 11.14, Optical Pickup Tilt Adjustment.)



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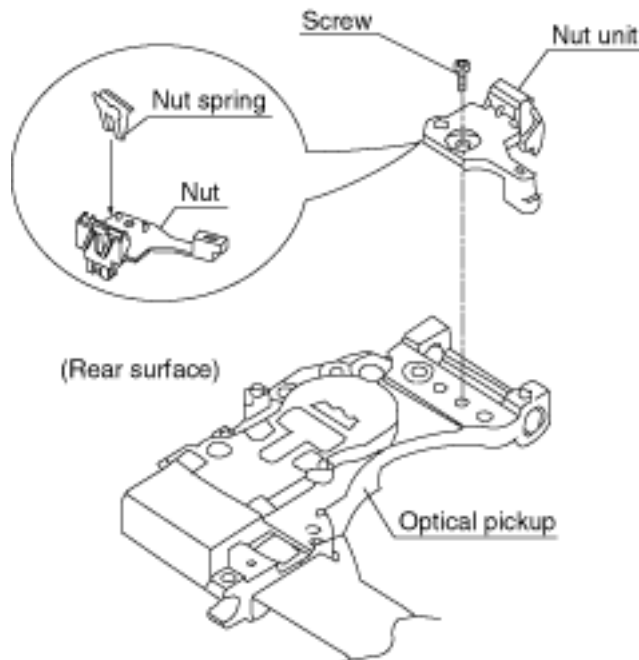
# 11.10 Disassembling the Nut Unit

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1. Remove the screw.

## Notes

2. The nut unit is not part of the optical pickup./Before replacing the optical pickup, remove the nut unit for use with the new optical pickup.
3. After installation, use screw lock to lock the screw in position.
4. When reassembling, use screw lock to lock the screw in position after attaching it.



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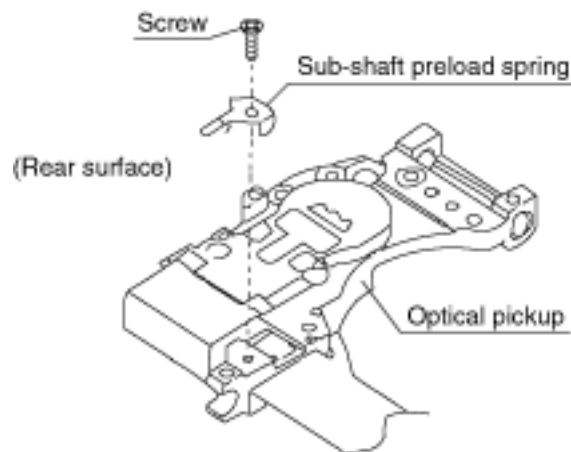
# 11.11 Disassembling the Sub-Shaft Preload Spring

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1. Remove the screw.

## Notes

2. Handle the sub-shaft preload spring carefully because the shape of the tip is easily deformed.
3. The sub-shaft preload spring is not part of the optical pickup. Before replacing the optical pickup, remove the sub-shaft preload spring for use with the new optical pickup.
4. After installation, use screw lock to lock the screw in position.



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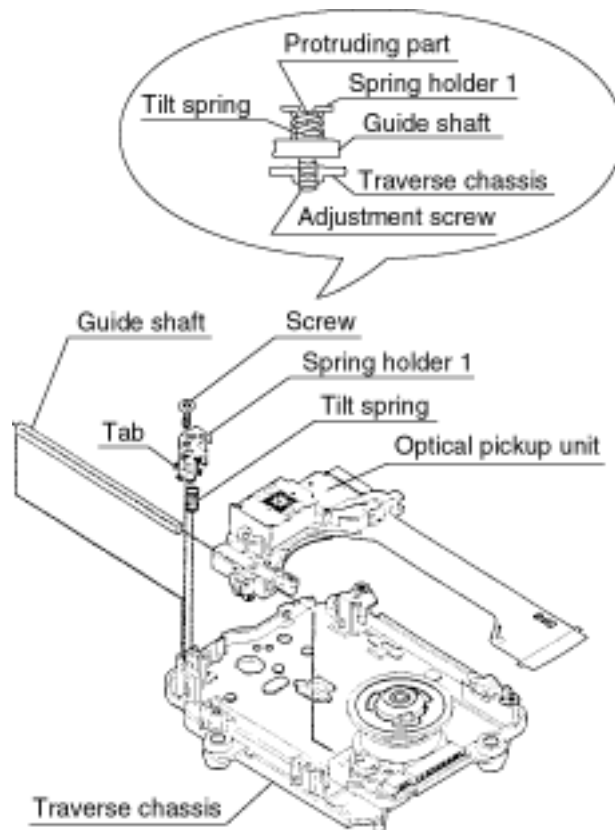
# 11.12 Assembling the Optical Pickup

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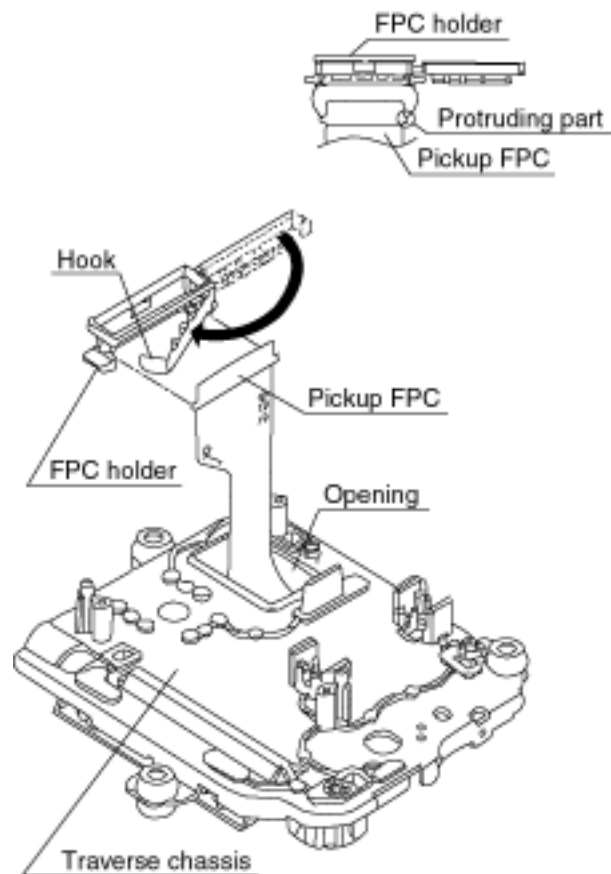
1. Install the optical pickup.

## Note

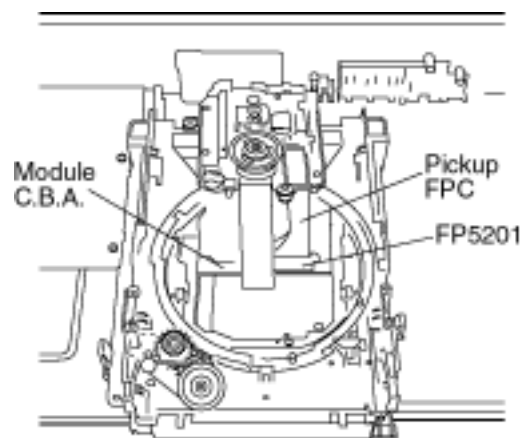
Take care not to attach the tilt spring and guide shaft in the wrong order.



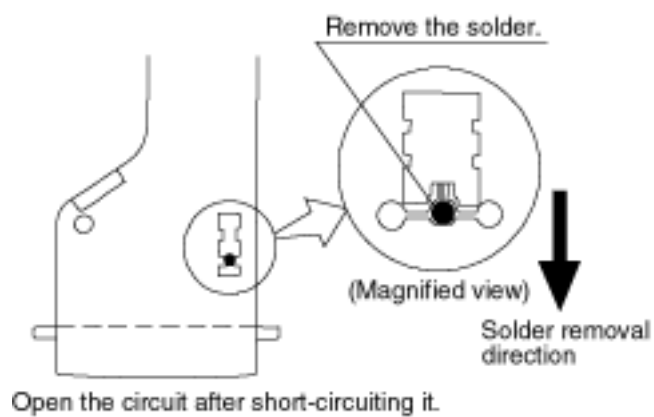
2. Fit the protruding part of the pickup FPC into the convex part of the FPC holder to install it.



3. Insert the pickup FPC into connector FP5201 on the module C.B.A.



4. Remove the solder from the pickup FPC's soldered short-circuit.



5. Adjust the optical pickup tilt after removing the solder. (Refer to section 11.14, Optical Pickup Tilt Adjustment.)

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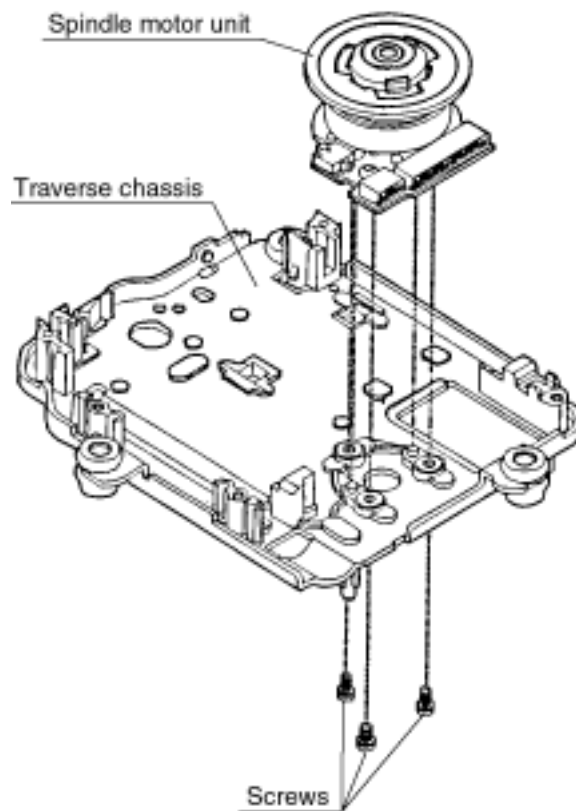
# 11.13 Disassembling the Spindle Motor Unit

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1. Remove the three screws.

## Note

Be sure to adjust the optical pickup tilt after replacing the spindle motor unit.

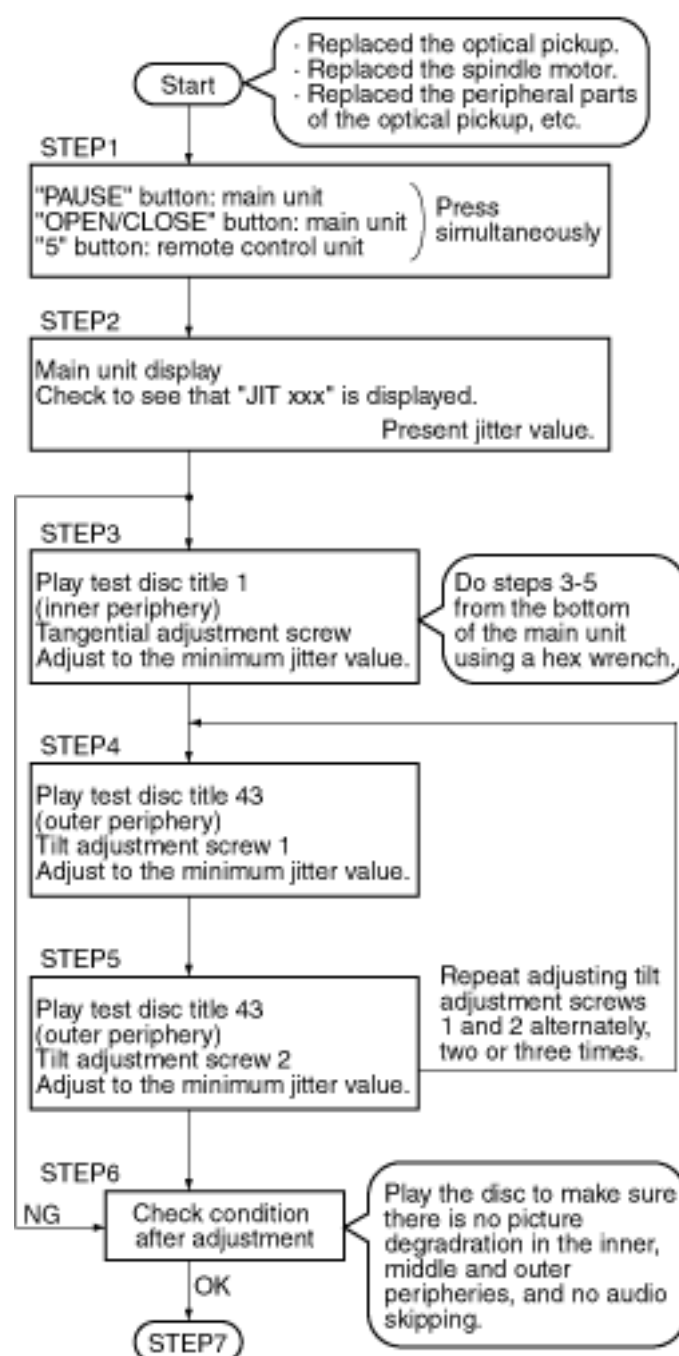


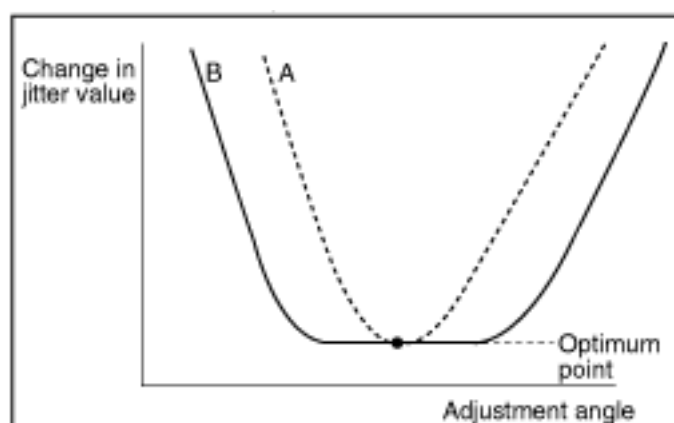
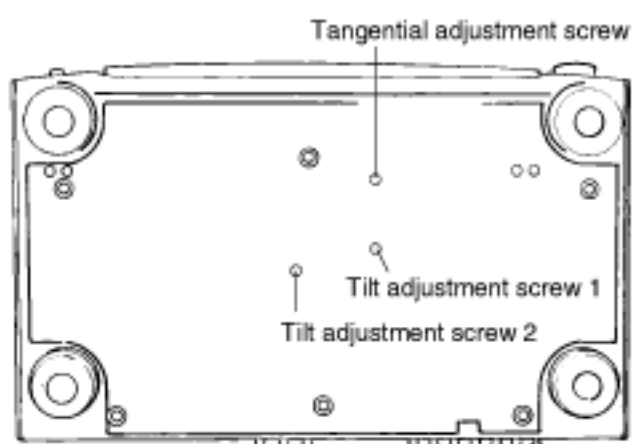
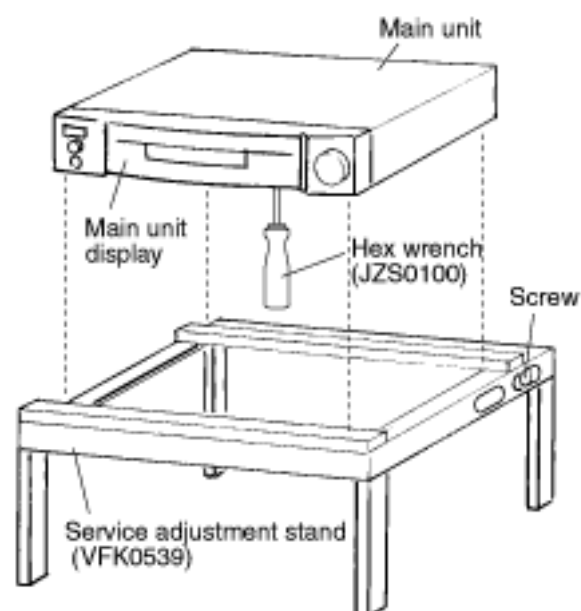
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# 11.14 Optical Pickup Tilt Adjustment

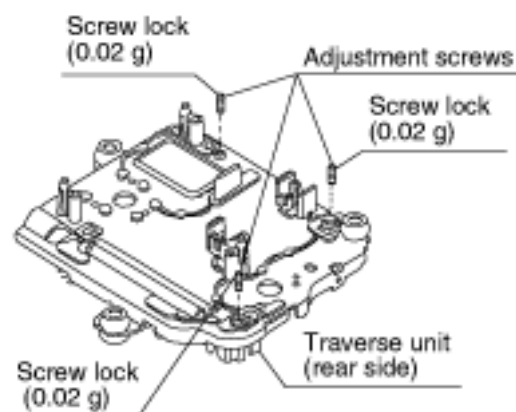
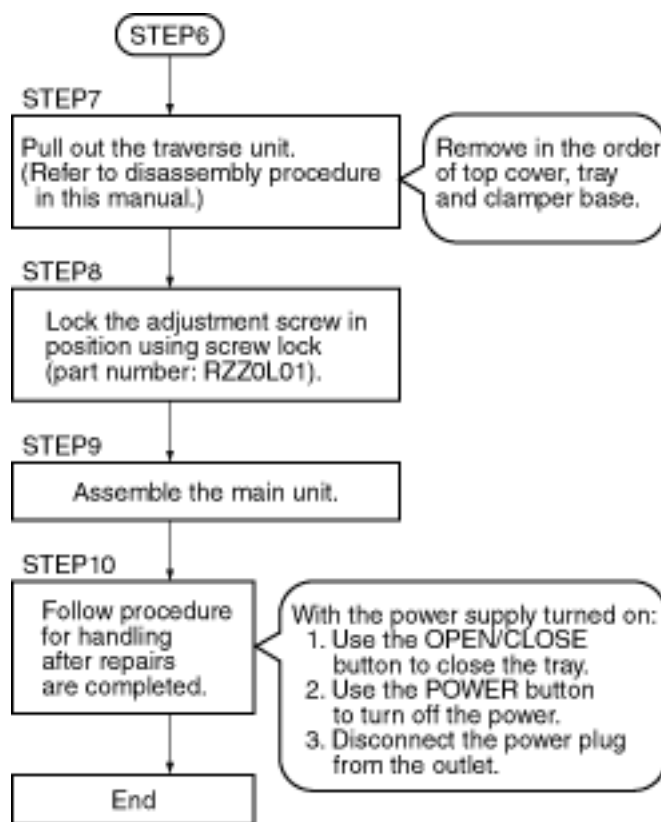
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Measurement point	Adjustment point	Mode	Disc
Main unit service display	Tangential adjustment screw Tilt adjustment screw	T1 (inner periphery) play T43 (outer periphery) play	DVDT-S15 or DVDT-S01
Measuring equipment, tools		Adjustment value	
Hex wrench (part number: JZS0100) Screw lock (part number: RZZ0L01)		Adjust to the minimum jitter value.	





- Jitter value depends on the model:
- (1) If the jitter value changes like A, the optimum point is easy to find.
- (2) If the jitter value changes like B, set the optimum point near the middle.



## Notes

Adjustment is generally unnecessary after replacing other parts of the traverse unit. However, adjust if there is a noticeable degradation in picture quality.

Optical adjustments cannot be made inside the optical pickup.

Adjustment is generally unnecessary after replacing the traverse unit.

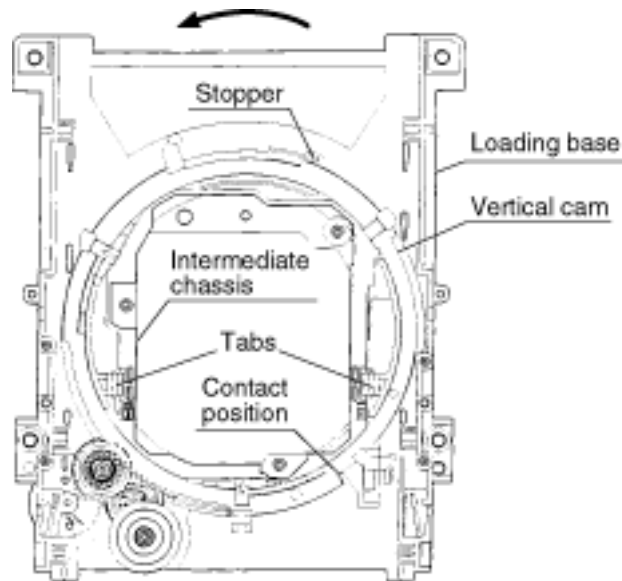
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# 11.15 Disassembling the Intermediate Chassis

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1. Push the stopper downward, then rotate it until it contacts the Vertical cam.
2. Release the 2 tabs.

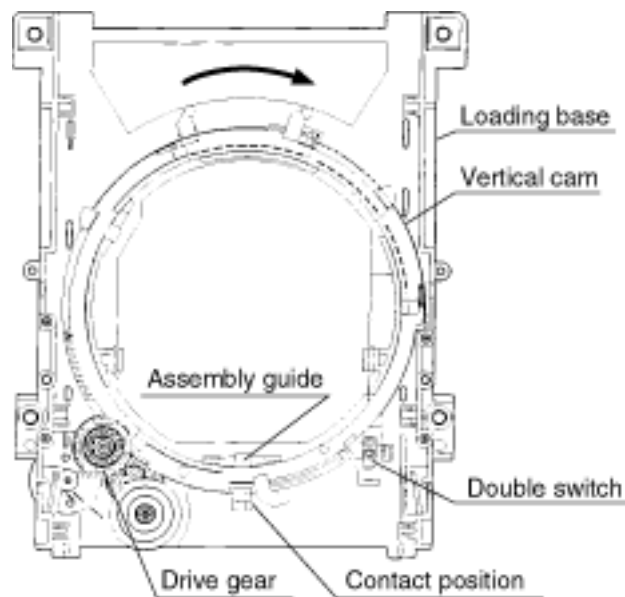


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# 11.16 Disassembling the Vertical cam and Drive gear

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1. Rotate the Vertical cam until it reaches the contact position.
2. Lift the Vertical cam straight upward to pull it out.
3. Remove the Drive gear.

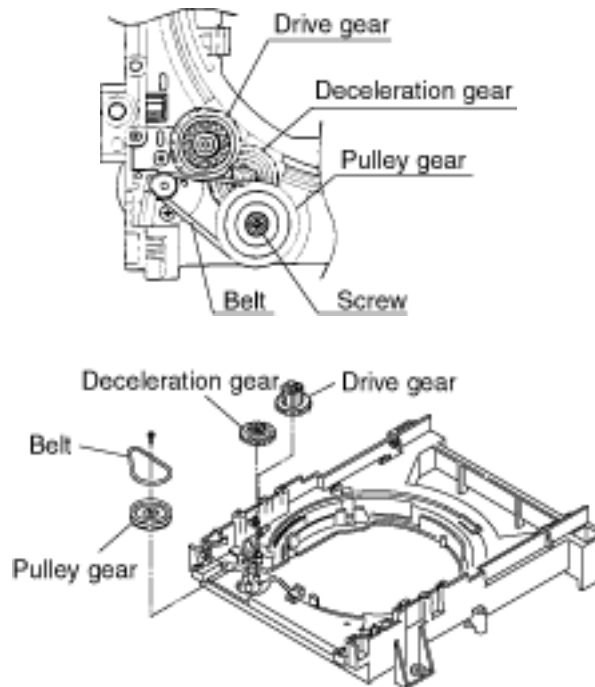


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# 11.17 Disassembling the Pulley Gear and Deceleration Gear

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1. Remove the screw.
2. Remove the pulley gear.
3. Remove the belt.
4. Remove the deceleration gear.

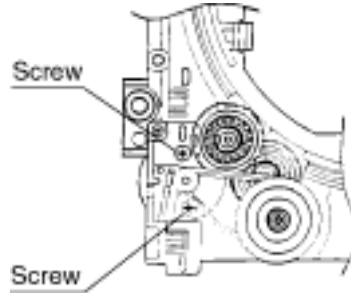


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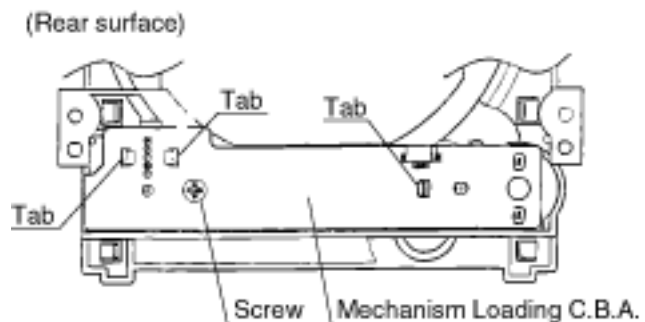
# 11.18 Disassembling the Mechanism Loading C.B.A.

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1. Remove the 2 screws.



2. Remove the 2 screws.
3. Release the three tabs.

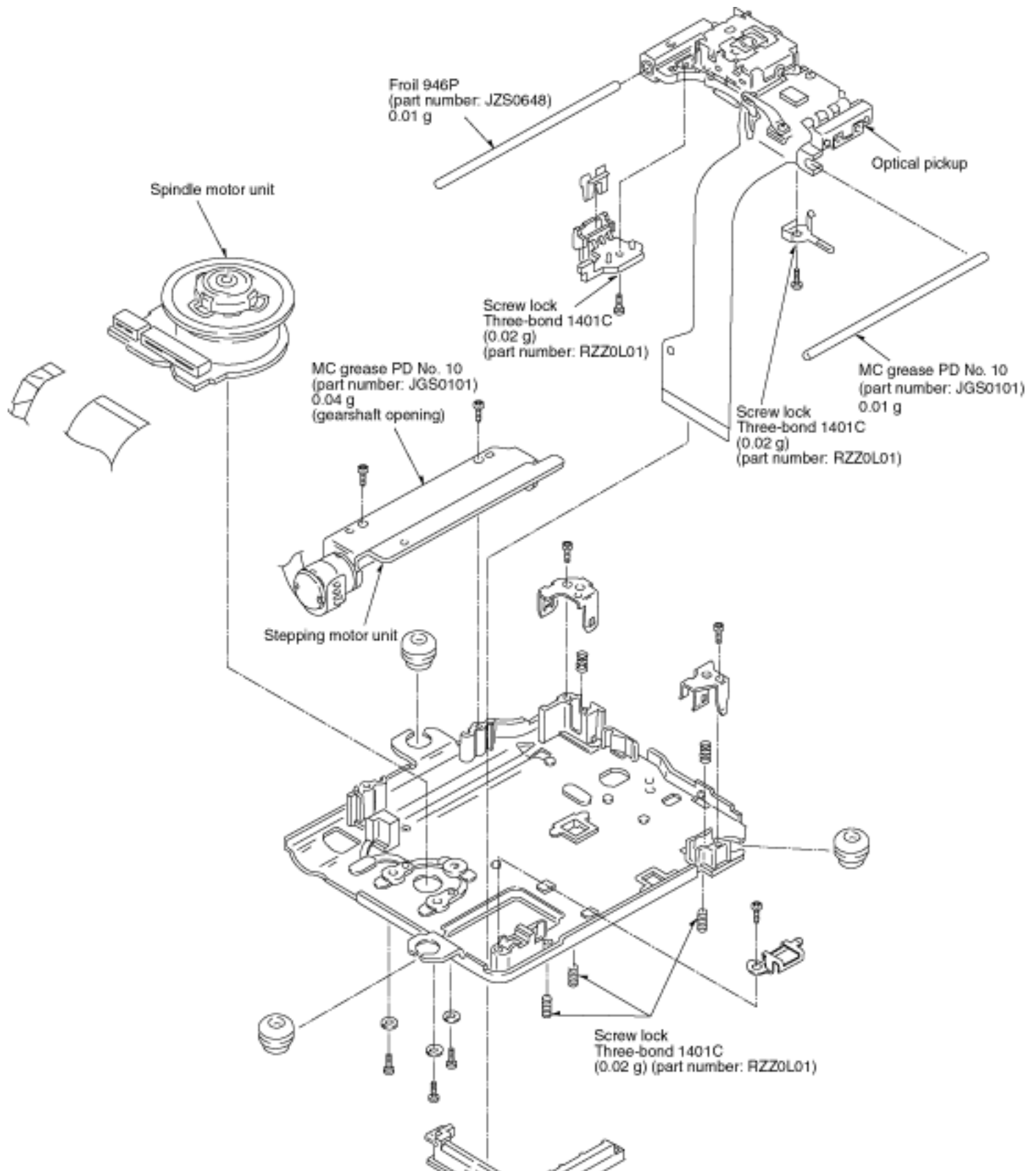


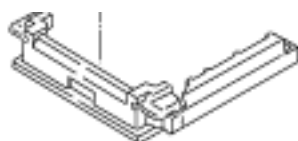
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# 11.19 Lubricating the Optical Pickup and Peripheral Parts

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When replacing parts, lubricate the parts marked "xxx" in the diagram.





	Part number	Service Tool
Screw lock	RZZ0L01	Three-bond 1401C
Lubricating oil	JZS0648	Froil 946P
Grease	JGS0101	MC grease PD no. 10

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# 12 Electrical Adjustment

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[12.1 Video Output \(Luminance Signal\) Adjustment](#)

[12.2 Video Output \(Chrominance Signal\) Adjustment](#)

[12.3 Video Component Signal \(CB\) Output Adjustment](#)

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# 12.1 Video Output (Luminance Signal) Adjustment

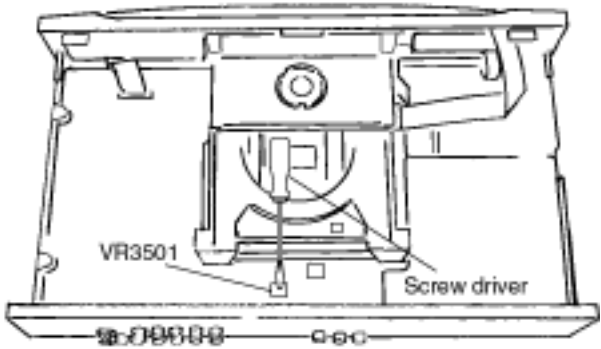
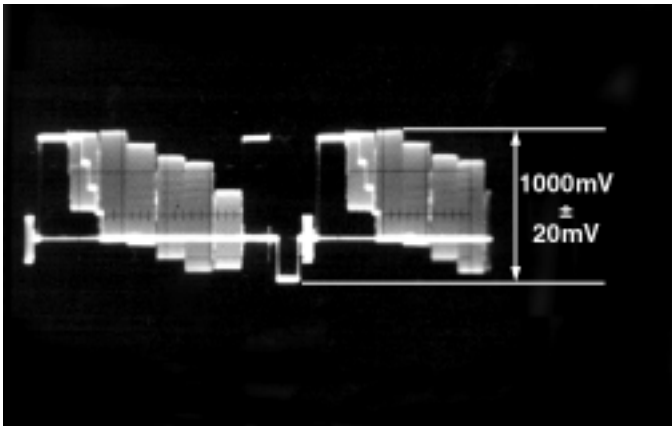
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Do this adjustment after replacing a C.B.A.

Measurement point	Adjustment point	Mode	Disc
Video output terminal	VR3501 (mother C.B.A.)	Color bar 75%PLAY (Title 46):DVDT-S15PLAY (Title 10):DVDT-S01	DVDT-S15orDVDT-S01
Measuring equipment, tools		Adjustment value	
Screwdriver, Oscilloscope200mV/div, 10μsec/div		1000mVp-p±13mV	

Purpose: To maintain video signal output compatibility.

1. Connect the oscilloscope to the video output terminal and terminate at 75 ohms.
2. Adjust VR3501 so that the luminance signal (Y+S) level becomes 1000 mVp-p±20 mV.



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# 12.2 Video Output (Chrominance Signal) Adjustment

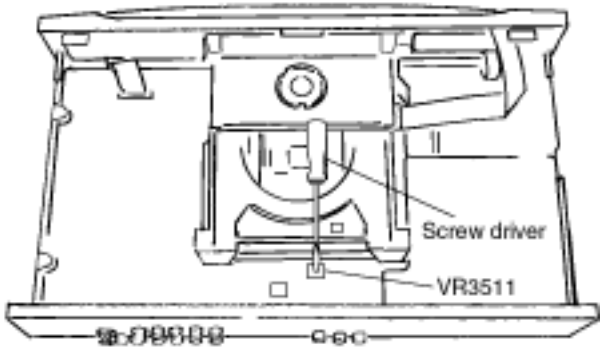
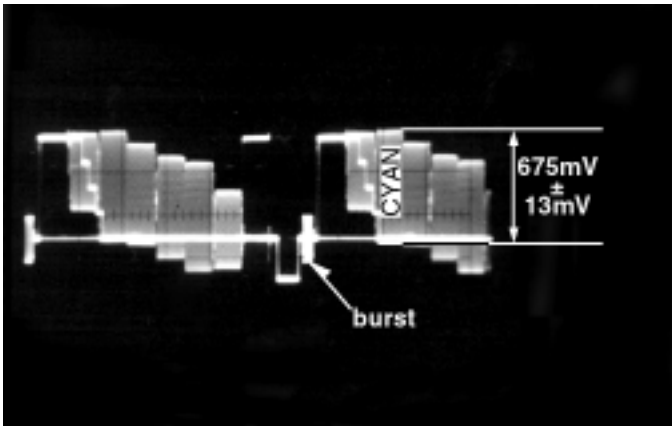
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Do this adjustment after replacing a C.B.A.

Measurement point	Adjustment point	Mode	Disc
Video output terminal	VR3511 (mother C.B.A.)	Color bar 75%PLAY (Title 46):DVDT-S15PLAY (Title 10):DVDT-S01	DVDT-S15orDVDT-S01
Measuring equipment, tools		Adjustment value	
Screwdriver,Oscilloscope200mV/div, 10μsec/div		675mVp-p±13mV	

Purpose: To maintain video signal output compatibility.

1. Connect the oscilloscope to the video output terminal and terminate at 75 ohms.
2. Adjust VR3511 so that the chrominance signal (C) level becomes 675 mVp-p±13 mV.



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# 12.3 Video Component Signal (CB) Output Adjustment

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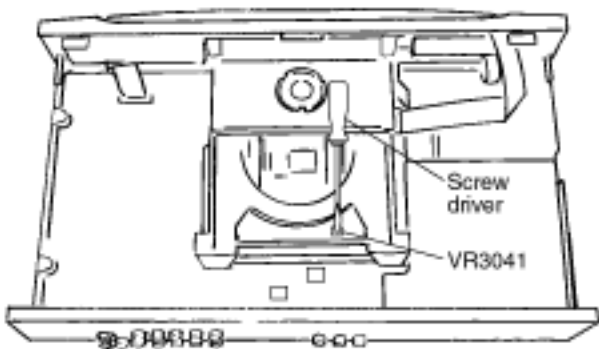
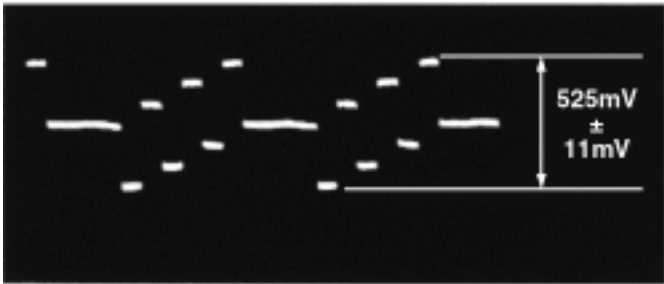
This adjustment is only for DVD-A120.

Do this adjustment after replacing a C.B.A.

Measurement point	Adjustment point	Mode	Disc
Video output terminal(Y) (CB) Output terminal	VR3041 (mother C.B.A.)	Color bar 75%PLAY (Title 46):DVDT-S15PLAY (Title 10):DVDT-S01	DVDT-S15orDVDT-S01
Measuring equipment, tools		Adjustment value	
Screwdriver, Oscilloscope100mV/div, 10μsec/div		525mVp-p±11mV	

**Purpose** : To maintain video signal output compatibility.

1. Connect the oscilloscope to the video component output terminal and terminate at 75 ohms.
2. Apply the trigger at the Y output terminal signal.
3. Adjust VR3041 so that the video component signal (CB) level becomes 525 mVp-p±11 mV.



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# 13 Abbreviations

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INITIAL/LOGO		ABBREVIATIONS
A	A0~UPACLKAD0~UPADATAAALEAMUTEAREQARFASIASOASYNC	ADDRESSAUDIO CLOCKADDRESS BUSAUDIO PES PACKET DATAADDRESS LATCH ENABLEAUDIO MUTEAUDIO PES PACKET REQUESTAUDIO RFSERVO AMP INVERTED INPUTSERVO AMP OUTPUTAUDIOWORD DISTINCTION SYNC
B	BCKBCKINBDOBLKCKBOTTOMBYPBYTCK	BIT CLOCK (PCM)BIT CLOCK INPUTBLACK DROP OUTSUB CODE BLOCK CLOCKCAP. FOR BOTTOM HOLDBYPATHBYTE CLOCK
C	CAVCBDOCDSCDKDSRDATAACDRFCDVCHNDATAACKSLCLVCOFTRCPACPCSCPDTCPUADRCPUADTCPUIRQCPRDCPWRCSSYNCINCSYNCOUT	CONSTANT ANGULAR VELOCITYCAP. BLACK DROP OUTCOMPACT DISCCD SERIAL DATA CLOCKCD SERIAL DATA CD RF (EFM) SIGNALCOMPACT DISC- VIDEOCHANNEL DATASYSTEM CLOCK SELECTCONSTANTLINEAR VELOCITYCAP. OFF TRACKCPU ADDRESSCPU CHIP SELECTCPU DATACPU ADDRESS LATCHCPU ADDRESS DATA BUSCPU INTERRUPT REQUESTCPU READ ENABLECPU WRITE ENABLECHIP SELECTCOMPOSITESYNC INCOMPOSITE SYNC OUT
D	DACCKDEEMPDEMPPHDIG0~UPDINDMSRCKDMUTEDODOUT0~UPDRFDRPOUTDREQDRESPDSCDSLFDVD	D/A CONVERTER CLOCKDEEMPHASIS BIT ON/OFFDEEMPHASIS SWITCHINGFL DIGIT OUTPUTDATA INPUTDM SERIAL DATA READ CLOCKDIGITAL MUTE CONTROLDROP OUTDATA OUTPUTDATASLICE RF (BIAS)DROP OUT SIGNALDATA REQUESTDATA RESPONSEDIGITAL SERVO CONTROLLERDATA SLICE LOOP FILTERDIGITAL VIDEO DISC

INITIAL/LOGO		ABBREVIATIONS
E	ECECRENCSELETMCLKETSCLK	ERROR TORQUE CONTROLERROR TORQUE CONTROL REFERENCEENCODER SELECTEXTERNAL M CLOCK (81MHz/40.5MHz) EXTERNAL S CLOCK (54MHz)
F	FBALFCLKFEFFIFEFGFSCFSCK	FOCUS BALANCEFRAME CLOCKFOCUS ERRORFOCUS ERROR AMP INVERTED INPUTFOCUS ERROR AMP OUTPUTFREQUENCY GENERATORFREQUENCY SUB CARRIERFS (384 OVER SAMPLING) CLOCK
G	GND	COMMON GROUNDING (EARTH)
H	HA0~UPHD0~UPHINTHRXL	HOST ADDRESSHOST DATAHOST INTERRUPTHOST READ/WRITE
I	IECOUTIPFRAGIREFISEL	IEC958 FORMAT DATA OUTPUTINTERPOLATION FLAGI (CURRENT) REFERENCEINTERFACE MODE SELECT
L	LDONLPCLRCK	LASER DIODE CONTROLLASER POWER CONTROL L CH/R CH DISTINCTION CLOCK
M	MA0~UPMCKMCKIMCLKMDATAMDQ0~UPMDQMMLDMPEG	MEMORY ADDRESSMEMORY CLOCKMEMORY CLOCK INPUTMEMORY SERIAL COMMAND CLOCKMEMORY SERIAL COMMAND DATAMEMORY DATA INPUT/OUTPUTMEMORY DATA I/O MASKMEMORY SERIAL COMMANDLOADMOVING PICTURE EXPERTS GROUP
O	ODCOFTROSCIOSCOOSD	OPTICAL DISC CONTROLLEROFF TRACKINGOSCILLATOR INPUTOSCILLATOR OUTPUTON SCREEN DISPLAY
P	P1~UPPCDPCKPDVDPEAKPLLCLK/PLLOKPWMCTLPWMDAPWMOA, B	PORTCD TRACKING PHASE DIFFERENCEPLL CLOCKDVD TRACKING PHASE DIFFERENCECAP. FOR PEAK HOLDCHANNEL PLL CLOCKPLL LOCKPWM OUTPUT CONTROLPULSE WAVE MOTOR DRIVE APULSEWAVE MOTOR OUT A, B

INITIAL/LOGO		ABBREVIATIONS
R	RERFENVRFORSRSELRSTRSV	READ ENABLERF ENVELOPERF PHASE DIFFERENCE OUTPUT(CD-ROM) REGISTER SELECTRF POLARITY SELECTRESETRESERVE
S	SBI0, 1SBO0SBT0, 1SCKSCKRSCLSCLKSDASEG0~UPSELCLKSENSIN1, 2SOUT1, 2SPDISPDOSPENSPRCLKSPWCLKSQCKSQCXSRDATASRMADRSRMDT0~7SSSTATSTCLKSTD0~UPSTENABLESTSELSTVALIDSUBCSBCKSUBQSYSCLK	SERIAL DATA INPUTSERIAL DATA OUTPUTSERIAL CLOCKSERIAL DATA CLOCKAUDIO SERIAL CLOCK RECEIVERSERIAL CLOCKSERIAL CLOCKSERIAL DATAFL SEGMENT OUTPUTSELECT CLOCKSERIALPORT ENABLESERIAL DATA INSERIAL DATA OUTSERIAL PORT DATA INPUTSERIAL PORT DATA OUTPUTSERIAL PORT R/W ENABLESERIAL PORT READ CLOCKSERIAL PORT WRITE CLOCKSUB CODE Q CLOCKSUB CODEQ DATA READ CLOCKSERIAL DATASRAM ADDRESS BUSSRAM DATA BUS 0~7START/STOPSTATUSSTREAM

		DATA CLOCKSTREAM DATASTREAM DATA INPUT ENABLESTREAM DATA POLARITY SELECTSTREAM DATA VALIDITYSUBCODE SERIALSUB CODE CLOCKSUB CODE Q DATASYSTEM CLOCK
T	TETIBALTIDTINTIPTISTPSNTPSOTPSPTRCRSTRONTRSON	TRACKING ERRORBALANCE CONTROLBALANCE OUTPUT IBALANCE INPUTBALANCE INPUTBALANCE OUTPUT 2OP AMP INPUTOP AMP OUTPUTOP AMP INVERTED INPUTTRACK CROSS SIGNALTRACKINGONTRAVERSE SERVO ON

INITIAL/LOGO		ABBREVIATIONS
V	VBLANKVCCVCDCONTVDDVFBVREFVSS	V BLANKINGCOLLECTOR POWER SUPPLYVOLTAGEVIDEO CD CONTROL (TRACKINGBALANCE)DRAIN POWER SUPPLY VOLTAGEVIDEO FEED BACKVOLTAGE REFERENCESOURCE POWER SUPPLY VOLTAGE
W	WAITWDCKWEHWSR	BUS CYCLE WAITWORD CLOCKWRITE ENABLE HIGHWORD SELECT RECEIVER
X	XXALEXAREQXCDROMXCSXCSYNCDXHSYNCOXHINTXIXINTXMWXOXREXSRMCEXSRMOEXSRMWEXVCSXVDSXVSYNCO	X' TALX ADDRESS LATCH ENABLEX AUDIO DATA REQUESTX CD ROM CHIP SELECTX CHIP SELECTX COMPOSITE SYNCX DATA STROBEX HORIZONTAL SYNC OUTPUTXH INTERRUPT REQUESTX' TALOSCILLATOR INPUTX INTERRUPTX MEMORY WRITE ENABLEX' TAL OSCILLATOR OUTPUTX READ ENABLEX SRAM CHIP ENABLEX SRAM OUTPUT ENABLEX SRAM WRITE ENABLEX V-DEC CHIP SELECTX V-DEC CONTROLBUS STROBEX VERTICAL SYNC OUTPUT

# 14 VOLTAGE CHART

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[14.1 POWER SUPPLY C.B.A.](#)

[14.2 MODULE C.B.A.](#)

[14.3 MOTHER C.B.A.](#)

[14.4 MIC JACK C.B.A.](#)

[14.5 MIC VOLUME C.B.A.](#)

[14.6 VIDEO COMPONENT C.B.A.](#)

[14.7 HEADPHONE C.B.A.](#)

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# 14.1 POWER SUPPLY C.B.A.

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IC

IC1021

	1	2	3	4	5	6	7
STOP	-26.0	0	0	0	17.0	0.5	0.2
PLAY	-26.0	0	0	0	17.0	0.5	0.2

IC1101

	A	K	R
STOP	0	3.9	2.5
PLAY	0	3.9	2.5

IC1121

	1	2	3	4
STOP	5.1	3.3	0	3.4
PLAY	5.1	3.3	0	3.4

IC1151

	1	2	3	4	5
STOP	0	3.4	8.9	8.9	12.5
PLAY	0	3.4	8.9	8.9	12.5

TRANSISTOR

Q1041

	1	2	3	4
STOP	5.2	4.1	0.5	16.6
PLAY	5.2	4.1	0.5	16.6

Q1111

	S	D	G
STOP	5.1	5.1	0
PLAY	5.1	5.1	0

TRANSISTOR & RESISTOR

QR1111

	E	C	B
STOP	0	0	3.4
PLAY	0	0	3.4

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# 14.2 MODULE C.B.A.

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IC

IC2001

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚
STOP	3.1	0	0	0	3.1	0	3.1	3.1	0	3.1	3.1	0	0.1	0.1	0	3.1	0	0.1	0.1	0.1	1.8	0.1	1.8	1.8	1.8	1.8	0	3.1	0	1.8
PLAY	3.1	0	0	0	3.1	0	3.1	3.1	0	3.1	3.1	0	3.1	0	3.1	0	0	3.1	1.5	1.8	1.5	1.8	1.5	1.5	1.5	1.5	0	3.1	0	1.8
	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	1	2	3	4	5	6	7	8	9	0
STOP	0.1	0.9	0	3.1	0	0	0	0	0	0	1.6	0	0	0.2	0	0	0	0	0	0	0	3.1	0	0	0	0	0	0	0	1.5
PLAY	0	0	3.1	3.1	3.0	0	0	0	0	0	1.6	1.5	0	0.2	0	0	0	0	0	0	0	3.1	0	0	1.5	0	3.1	0	0	0
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
STOP	0.2	1.5	0.2	0.2	0	0	0	0	3.1	3.1	1.5	0	0	3.1	0	0	1.4	0	0	0	1.3	0	0	0	1.4	0	1.4	0	1.4	0.6
PLAY	0	0.1	1.5	1.5	0	0	0	0	3.1	3.1	1.4	0.1	0	3.1	0.1	0.5	0.1	2.1	3.1	0.1	1.1	1.4	0.1	0.1	0.1	1.4	1.3	2.1	1.4	0.6
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
STOP	1.4	1.4	1.4	1.4	0	0	3.1	0.1	0.1	1.6	0.1	1.4	1.4	1.4	1.4	3.1	0.1	0.1	0.1	1.5	0.1	0	0	3.1	0.1	0	0.1	1.4	0	1.6
PLAY	1.4	1.4	1.4	1.2	1.2	0	3.1	1.5	1.9	1.6	1.4	1.3	1.4	1.6	0.3	3.1	0.2	1.4	0.2	0.2	1.4	0	0	3.1	2.3	0	1.2	1.4	0	1.5
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
STOP	0.1	0	0.1	0.4	0.1	0.1	0	3.1																						
PLAY	1.6	0	0	0.6	0	0	0	0																						

IC2501

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚
STOP	0	2.2	5.0	5.0	5.0	5.0	5.0	5.0	0	2.1	2.1	0	5.0	0	2.2	2.2	0.6	0.1	0	0	8.9	8.9	2.2	2.2	2.2	2.2	2.3	2.1	0	0
PLAY	0.3	2.9	2.9	0.3	2.9	2.9	2.9	0.8	3.5	2.1	2.1	0	4.9	0	0	0.3	0.6	0	0.3	0.3	8.8	8.8	7.2	0.3	0	7.2	0	7.2	0	0

IC2511

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚
STOP	0.1	1.4	1.4	1.4	0.1	0.1	1.4	0	2.4	4.9	0.1	0.1	0.1	0.4	5.8	2.2	5.8	2.3	8.9	2.4	0	1.4	1.4	1.4	1.4	1.4	1.4	8.9	0	0
PLAY	1.4	0.8	1.4	1.5	1.3	1.3	0.7	0	3.1	4.9	2.5	2.5	0.5	2.7	3.2	5.1	3.2	1.2	8.8	3.1	0	1.2	1.4	1.4	1.4	1.2	1.4	8.8	0	0



IC3001

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
STOP	0	3.1	3.1	3.1	0	3.1	0	3.1	3.1	3.1	3.1	3.1	0	3.1	0	3.1	3.1	0	0	3.1	3.1	3.1	3.1	3.1	0	2.8	2.8	3.1	2.3	0
PLAY	0	2.7	2.6	3.1	2.6	2.6	0	0	0	3.1	2.6	2.5	0	2.5	0	3.1	2.5	2.6	0	2.5	2.6	3.1	2.6	2.7	0	2.2	0	3.1	2.0	2.0
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
STOP	0	2.6	2.5	3.1	2.6	2.6	0.1	0.1	0.1	3.1	2.5	0.1	0	2.5	0.1	3.1	0.1	0.1	0	3.1	2.7	3.1	0	3.1	3.1	2.7	3.1	3.1	3.0	0
PLAY	0	2.0	0	3.1	2.0	0	0	1.8	0	3.1	1.8	2.0	0	0	2.0	3.1	0.2	2.2	0	3.1	2.0	3.1	0	3.0	1.4	2.0	3.1	2.9	3.0	0
	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)	(88)	(89)	(90)
STOP	3.1	3.0	3.1	0	0	1.5	0	0	3.1	0	3.1	0	0	3.1	1.4	0	0	0	0	3.1	0	0	0	1.5	0	3.1	0	0.1	0	1.2
PLAY	3.1	2.8	3.1	1.5	1.5	1.5	3.1	0	3.1	1.4	3.1	0	1.4	3.1	0	1.5	0	0	0	3.1	1.3	0	0	1.5	0	3.1	1.7	0.1	0	1.6
	(91)	(92)	(93)	(94)	(95)	(96)	(97)	(98)	(99)	(100)	(101)	(102)	(103)	(104)	(105)	(106)	(107)	(108)	(109)	(110)	(111)	(112)	(113)	(114)	(115)	(116)	(117)	(118)	(119)	(120)
STOP	1.5	3.1	4.7	3.1	0	1.5	0	0	0	0	0	0.1	0	0.1	3.1	0	2.4	2.4	0	5.0	2.4	2.4	2.3	3.1	3.1	2.4	0	5.0	0	5.0
PLAY	1.5	3.1	4.7	3.1	0	1.5	0	0	0	0	0	0	0	0	3.1	0	0	0.3	0	4.9	0.1	0.3	2.2	0.3	3.1	0.2	0.2	2.6	2.6	2.6
	(121)	(122)	(123)	(124)	(125)	(126)	(127)	(128)	(129)	(130)	(131)	(132)	(133)	(134)	(135)	(136)	(137)	(138)	(139)	(140)	(141)	(142)	(143)	(144)	(145)	(146)	(147)	(148)	(149)	(150)
STOP	0	5.0	3.1	0	2.4	3.1	3.1	3.1	3.1	3.1	0	2.4	2.9	2.4	3.1	1.5	0	2.4	2.3	2.3	2.4	2.4	2.7	2.7	2.8	3.1	2.7	2.8	2.8	2.9
PLAY	0.2	0.2	0.2	0	3.1	3.1	3.1	0.3	3.1	2.4	0	3.1	2.7	3.1	3.1	1.5	0	0.2	0.2	1.8	1.9	2.4	2.3	2.5	3.1	2.4	2.6	2.5	2.6	
	(151)	(152)	(153)	(154)	(155)	(156)	(157)	(158)	(159)	(160)	(161)	(162)	(163)	(164)	(165)	(166)	(167)	(168)	(169)	(170)	(171)	(172)	(173)	(174)	(175)	(176)	(177)	(178)	(179)	(180)
STOP	2.9	2.7	2.7	2.8	2.3	0	2.8	2.8	2.8	2.8	1.1	0.6	0.6	0.6	1.6	0.7	0.3	1.2	3.1	1.5	0	3.1	2.9	1.6	0	2.3	2.3	3.1	1.6	0
PLAY	2.6	0.1	2.4	2.5	2.5	0	2.5	2.5	2.6	2.6	0.7	0.7	0.6	0.5	1.1	0.8	0.8	1.6	3.1	1.5	0	3.0	2.9	1.5	0	0.4	1.4	3.1	1.5	0
	(181)	(182)	(183)	(184)	(185)	(186)	(187)	(188)	(189)	(190)	(191)	(192)	(193)	(194)	(195)	(196)	(197)	(198)	(199)	(200)	(201)	(202)	(203)	(204)	(205)	(206)	(207)	(208)		
STOP	1.5	3.1	0	0	0	1.4	1.5	0	0	0.1	3.2	3.3	1.6	0.3	2.6	3.2	3.3	1.7	1.8	2.7	3.2	3.3	1.7	1.7	2.2	0.4	0	0		
PLAY	1.5	3.1	0	0	1.1	1.4	1.5	0	0	0	3.1	3.3	1.6	1.8	2.6	3.0	3.3	1.6	1.8	2.6	3.0	3.3	1.6	1.6	2.2	0.6	0	0		

IC3051

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)		
STOP	3.1	2.8	2.5	0	2.5	2.6	3.1	2.7	2.6	0	2.5	0.1	3.1	2.7	3.1	0.1	0.1	0.2	0.2	0	0	0	0	1.5	0.2	0	2.1	2.1	2.1	2.1		
PLAY	3.1	2.5	2.5	0	2.3	2.2	3.1	2.5	2.4	0	2.4	2.5	3.1	0.3	3.1	3.0	2.9	2.8	0.3	0	0.3	0.3	0	0.3	0.3	0	3.1	0.2	1.3	0.2	0.2	0.2
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)												
STOP	2.2	2.2	2.2	3.1	1.5	2.7	2.2	3.1	2.2	2.5	0	2.2	2.1	3.1	2.2	2.2	0	2.2	2.2	0												
PLAY	0	0.1	0.1	3.1	1.5	2.4	0.2	3.1	2.5	2.4	0	2.3	2.3	3.1	2.5	2.4	0	2.4	0.3	0												

IC3071

	(1)	(2)	(3)	(4)	(5)	(6)
STOP	4.9	0	1.3	3.3	0	4.9
PLAY	4.9	0	1.3	3.3	0	4.9

IC3281

	(1)	(2)	(3)	(4)	(5)
STOP	5.0	5.0	3.3	2.2	0
PLAY	4.9	4.9	3.3	1.9	0

IC3301

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STOP	2.8	0	2.4	0	2.2	0	0	4.9
PLAY	3.3	1.8	2.5	0	2.2	2.4	0	4.9

IC3201

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
STOP	3.3	0	0	0	0	1.7	0	0.3	0	0	3.3	0	0	3.3	3.3	3.3	0	0	3.3	3.3	3.3	0	1.6	0.9	0	0	3.3	0	0	3.3
PLAY	3.3	0.2	0.2	0.2	0.1	0.1	0.8	0.9	1.6	3.0	3.3	0	0	3.3	3.3	3.3	0	0	3.3	3.3	3.3	0	1.6	0.9	0.7	0	3.3	0	0.2	3.3
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)												
STOP	0	3.3	0	3.3	0	2.1	1.6	0	0	0	0	0	0	0	3.1	3.3	3.3	0	1.5											
PLAY	0.2	3.3	0.7	3.3	0.2	0.3	1.5	1.5	0	0	0	0	0	0	3.1	0.3	3.3	0	1.5											

IC3302

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
STOP	0.1	0.1	0	0	0	0	0	0	0	4.8	0.1	2.6	1.9	0.1	0.1	4.9
PLAY	0.2	1.0	0	0	0	0	0	0	0	0.2	2.6	2.6	2.6	2.9	0.2	4.9

IC3322

	(1)	(2)	(3)	(4)	(5)
STOP	0	0.1	0	2.6	4.9
PLAY	2.2	1.8	0	2.6	4.9

IC4241

	(1)	(2)	(3)	(4)	(5)
STOP	0	1.6	0	2.5	5.0
PLAY	1.2	1.6	0	2.5	4.9

IC3321

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
STOP	0	0.1	4.9	3.8	0.1	0.1	0.1	0	0	3.8	4.9	0	1.1	0.1	0.1	4.9
PLAY	0	0	4.9	3.8	2.7	0	0.2	0	0	3.8	4.9	2.2	1.1	0.3	3.9	4.9

IC5201

	(1)	(2)	(3)	(4)	(5)
STOP	0	4.9	1.3	2.2	0
PLAY	0	4.9	3.3	1.6	0

IC5202

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
STOP	0	0.1	0.1	0	1.6	1.6	1.8	0.1	0.1	1.4	0.8	0.1	1.4	0.1	0.1	0.1	0.1	0.1	3.1	0.1	0.1	3.1	0.1	4.9	0.1	1.2	0	0	1.4	0.1
PLAY	0.2	3.1	3.3	0.5	1.6	1.6	1.8	2.1	1.6	1.3	0.8	1.3	0.3	0.3	0.6	0.3	0.3	0	0.3	0.3	3.1	3.1	0.3	0.3	0	0.2	0.2	0.3	0.3	0.3
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
STOP	0	0	1.4	0	0	0	0	0	0	0	0	0	0	4.9	0	0	0.1	0.1	1.6	0.1	3.1	0	4.9	0	4.9	0	0	2.2	2.5	0
PLAY	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	3.8	0.3	0.2	2.4	4.9	0	0	0.1	0.2	0.1	1.5	3.1	0.3	4.8	0	4.8	0.5	1.2	2.2	2.0	2.0
	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)	(88)	(89)	(90)
STOP	0	1.6	0	1.3	0.2	0	1.6	1.4	0.1	0.1	2.2	0.1	0.1	0.1	3.4	3.4	0.1	0	2.1	2.1	4.9	0.1	2.2	3.4	0.1	2.0	2.1	1.4	0.1	0.1
PLAY	1.5	1.6	0	1.1	0.2	0.2	1.6	1.4	1.8	2.0	2.3	2.3	2.2	2.9	0.3	3.6	1.1	2.1	2.1	1.3	4.8	1.4	1.3	3.6	3.4	2.0	1.4	1.3	1.3	1.2
	(91)	(92)	(93)	(94)	(95)	(96)	(97)	(98)	(99)	(100)																				
STOP	0.1	0.1	4.9	2.1	0.1	0.1	0.1	0.1	2.2	0.1																				
PLAY	1.3	2.0	4.8	2.0	2.0	1.3	2.0	2.1	1.3	1.3																				

IC6201

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
STOP	3.1	2.9	0	0	0	0	0	2.7	3.3	3.3	0	0	1.7	2.4	0	2.3	3.1	1.5	0	0	3.1	3.1	1.4	3.1	0	2.5	2.5	2.5	2.3	0
PLAY	3.1	2.7	3.1	3.1	0	0	3.1	2.5	3.3	0	0	3.1	1.0	0	0	1.9	3.1	1.5	0	0	0	0	1.4	3.1	3.1	1.8	2.0	2.2	0	0
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
STOP	2.2	2.3	0	3.1	2.1	2.8	2.8	2.0	2.0	2.0	2.0	0	0.1	0	0	0	0	0	0	3.1	0.2	3.1	3.1	3.1	3.1	3.1	0.3	3.1	3.1	3.1
PLAY	0.6	0.3	0.3	3.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0	0.3	3.1	0.3
	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)	(88)	(89)	(90)
STOP	0	1.6	3.1	0.3	0.3	3.1	2.7	0.3	2.6	3.1	3.1	3.1	0.3	0.3	0.3	3.1	3.1	0	0	3.1	0.2	0.2	3.1	0.2	3.1	0.2	0.2	0.3	0.3	0.3
PLAY	0.3	1.4	0.3	0	0	3.1	3.1	3.1	0.1	0.1	3.1	3.1	3.1	3.1	0.1	3.1	0.1	0.1	0.1	0.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	(91)	(92)	(93)	(94)	(95)	(96)	(97)	(98)	(99)	(100)																				
STOP	3.1	0	0.3	0.3	3.1	0.2	0.2	0.2	3.1	3.1																				
PLAY	3.1	0	3.1	3.1	3.1	0.1	3.1	3.1	3.1	3.1																				

IC6301

	(1)	(2)	(3)	(4)	(5)
STOP	0	0	0	3.1	3.1
PLAY	0	0	0	3.1	3.1

IC6303

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STOP	3.1	3.1	3.1	0	3.1	3.1	3.1	3.1
PLAY	3.1	3.1	3.1	0	3.1	3.1	3.1	3.1

IC6302

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
STOP	1.8	2.7	2.8	2.8	1.8	2.0	0.1	1.9	0.1	0	3.1	3.1	0	0	0.1	0	0	2.1	0	2.4	2.3	0.1	0.1	2.3	2.7	2.7	0	0	2.7	2.7
PLAY	1.8	2.5	2.8	1.8	1.1	1.7	1.8	1.5	1.7	1.7	3.1	1.7	1.8	1.7	4.0	1.7	0.8	1.8	1.8	2.1	1.9	2.7	2.8	1.8	2.7	0.3	0	0	2.9	2.9
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)												
STOP	2.7	2.7	2.8	2.8	0	2.8	0	2.8	0	0	0	2.9	2.8	0	0	0	3.1	0												
PLAY	2.9	2.9	2.9	0.3	0.3	2.9	0.3	3.0	2.9	2.9	2.9	3.0	2.9	3.0	3.0	0	3.1	2.3												

IC6501

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
STOP	0	3.1	0	0	0	0	0	0	1.5	3.2	0	0	3.2	1.5	3.1	3.1
PLAY	0	3.1	0	1.1	0	1.2	1.2	1.4	1.2	3.2	1.2	1.2	3.2	1.5	3.1	3.1

IC6511

	(1)	(2)	(3)	(4)	(5)	(6)
STOP	4.9	1.1	1.2	3.3	0	4.9
PLAY	4.9	0	1.2	3.3	0	4.9

IC6521

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STOP	1.4	1.5	1.4	0	1.4	3.1	0	2.4
PLAY	1.4	1.1	1.4	0	1.4	3.1	0	3.0





# 14.3 MOTHER C.B.A.

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IC

IC3531

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒
STOP	2.4	0	2.3	4.9	2.3	4.9	2.3	4.9	2.0	0	1.9	2.0	0	2.4	4.9	2.0	1.5	0	2.0	1.8	0	0
PLAY	2.4	0	2.4	4.9	2.2	4.9	2.2	4.9	1.9	0	1.9	1.9	0	2.4	4.9	2.4	1.6	0	2.4	1.8	0	0

IC4201

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘
STOP	1.6	0	1.5	1.8	1.4	4.6	0	4.8	4.8	0	2.4	2.5	2.4	0	4.8	2.4	2.5	2.4	0	4.8	0.2	4.8	0	4.8	4.8	5.0	5.0	5.0
PLAY	1.6	1.1	1.5	1.8	1.4	4.5	0	4.8	4.8	0	2.4	2.7	2.4	0	4.8	2.4	2.7	2.4	0	4.8	5.0	4.8	0	4.8	4.8	5.0	5.0	5.0

IC4211

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘
STOP	1.6	0	1.5	1.8	1.4	4.5	0	4.8	4.8	0	2.4	2.6	2.4	0	4.8	2.4	2.6	2.4	0	4.8	0.1	4.8	0	4.8	4.8	5.0	5.0	5.0
PLAY	1.5	0	1.5	1.8	1.4	4.5	0	4.8	4.8	0	2.4	2.6	2.4	0	4.8	2.4	2.7	2.4	0	4.8	0.1	4.8	0	4.8	4.8	5.0	5.0	5.0

IC4221

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘
STOP	1.6	0	1.5	1.8	1.4	4.5	0	4.8	4.8	0	2.4	2.6	2.4	0	4.8	2.4	2.5	2.4	0	4.8	0.1	4.8	0	4.8	4.8	5.0	5.0	5.0
PLAY	1.6	0	1.5	1.8	1.4	4.5	0	4.8	4.8	0	2.4	2.6	2.4	0	4.8	2.4	2.6	2.4	0	4.8	0.1	4.8	0	4.8	4.8	5.0	5.0	5.0

IC4232

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0.2	0.1	0	0	0.1	0	0	5.0
PLAY	5.0	0.1	5.0	0	0.1	5.0	5.0	5.0

IC4251

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱
STOP	0	5.0	5.0	5.0	0	0	0	0	2.9	0	0	0	0	0	0	0	0	5.0
PLAY	0	5.0	5.0	5.0	0	0	0	0	2.9	0	0	0	0	0	0	0	0	5.0

IC4266

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭
STOP	3.1	5.0	3.1	5.0	3.1	5.0	0	5.0	3.1	0	0	0	0	5.0
PLAY	3.1	5.0	3.1	5.0	3.1	5.0	0	5.0	3.1	0	0	0	0	5.0

IC4306

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.4	0	0	0	8.5
PLAY	0	0	0	-8.4	0	0	0	8.5

IC4321

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.4	0	0	0	8.5
PLAY	0	0	0	-8.4	0	0	0	8.5

IC4341

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4361

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4391

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔
STOP	-8.9	2.3	-0.2	-0.2	1.9	0	0	2.5	0	2.5	0	5.0	5.0	0	2.4	9.0	2.5	0	0	2.0	-0.2	-0.2	2.2	9.0
PLAY	-8.9	2.3	-0.2	-0.2	2.3	0	0	1.3	0	2.3	0	5.0	5.0	0	2.3	9.0	2.4	0	0	2.3	-0.2	-0.2	2.4	9.0

IC4392

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔
STOP	-8.9	2.1	-0.2	-0.2	2.2	0	0	2.2	0	2.2	0	5.0	5.0	0	2.2	0	2.1	0	0	2.2	-0.2	-0.2	2.2	9.0
PLAY	-8.9	2.4	-0.2	-0.2	2.5	0	0	2.4	0	2.5	0	5.0	5.0	0	2.5	0	2.5	0	0	2.5	-0.2	-0.2	2.5	9.0

IC4401

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4421

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4441

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.4	0	0	0	8.5
PLAY	0	0	0	-8.4	0	0	0	8.5

IC4451

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.4	0	0	0	8.5
PLAY	0	0	0	-8.4	0	0	0	8.5

IC4461

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0.2	0	-8.9	0	0	0	9.0
PLAY	0.9	0.9	0	-8.9	0	0	0	9.0

IC4601

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚
STOP	0	0	0	0	5.0	4.9	2.5	2.5	2.5	2.5	4.2	2.5	2.5	0	0	2.5	2.5	4.9	2.5	2.5	0	0	5.0	2.3	2.3	0	0	0.4	0.4	
PLAY	0	0	0	0	5.0	4.9	2.4	2.4	2.4	2.4	4.2	2.4	2.4	0	0	2.4	2.4	4.9	2.4	2.4	0	0	5.0	5.0	2.3	2.3	0	0	0	0
	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	㏀	㏁	㏂	㏃	㏄	㏅	㏆	㏇	㏈	㏉
STOP	0	0	0	0	0	0	0	0	5.0	0	2.5	2.5	0	2.4	2.5	5.0	5.0	5.0	5.1	5.1	5.1	0	5.0	0	0	0	0	0	0	0
PLAY	0	0.8	0	0	5.0	0	0	0	5.0	1.2	2.5	2.5	0	2.4	2.5	5.0	5.0	5.0	5.1	5.1	0	0	5.0	0	0	0	0	0	0	0.9

IC4602

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	1.5	2.5	0.8	0.8	2.5	0	0	0	0	0	0	0	0	0	2.5	5.0
PLAY	1.5	2.5	1.5	2.5	2.5	0	0	0	0	0	0	1.2	0	1.2	2.5	5.0

IC4603

	①	②	③	④	⑤
STOP	1.5	1.5	0	0.8	5.0
PLAY	1.5	1.5	0	2.5	5.0

IC4604

	①	②	③	④	⑤
STOP	1.5	1.5	0	0.8	5.0
PLAY	1.5	1.5	0	2.4	5.0

IC4605

	①	②	③	④	⑤
STOP	0	0	0	0.8	5.0
PLAY	0	0	0	0	5.0

IC4606

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	-0.1	0	0	-8.9	0	0	-0.1	9.0
PLAY	-0.1	0	0	-8.9	0.1	0	-0.1	9.0

IC4610

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	-0.1	0	0	-8.9	0	0	-0.1	9.0
PLAY	-0.1	0	0	-8.9	0	0	-0.1	9.0

IC4611

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	-7.8	1.2	0	-8.9	0	1.2	-7.8	9.0
PLAY	-7.8	1.8	0	-8.9	0	1.8	-7.8	9.0

IC4613

	①	②	③	④	⑤
STOP	0	3.1	0	2.3	5.0
PLAY	0	3.1	0	2.3	5.0

IC4612

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭
STOP	2.4	5.0	1.5	2.5	0.5	2.4	0	0	0	0	0	0	0	5.0
PLAY	2.4	5.0	1.5	2.5	1.5	2.4	0	0	1.2	0	0	0	0	5.0

IC4701

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4751

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	2.4	2.5	2.4	0	2.5	2.4	2.5	5.0
PLAY	2.4	2.5	2.4	0	2.5	2.4	2.5	5.0

IC4781

	①	②	③
STOP	0	2.5	5.0
PLAY	0	2.5	5.0

IC4901

	①	②	③	④	⑤
STOP	11.0	3.3	9.0	2.1	0
PLAY	11.0	3.3	9.0	2.2	0

## IC6001

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	
STOP	5.1	5.1	5.1	5.1	2.5	2.4	0	2.5	2.7	0	0	0	5.1	5.1	-31.4	1.5	-18.0	-28.8	-28.8	-28.8	-16.2	-21.1	-21.4	2.2	2.2	2.4	2.4	-28.5	-28.4	2.4	
PLAY	5.1	2.9	5.1	5.1	2.5	2.4	0	2.6	2.7	0	0	0	5.1	5.1	-29.5	2.0	-10.1	-24.6	-21.7	-27.0	-17.5	-14.5	-21.8	2.8	2.9	-14.5	2.8	-24.3	-26.6	2.8	
	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	
STOP	2.4	-28.8	2.4	-28.8	-28.8	-28.8	-28.8	-28.6	-28.7	-21.4	-21.8	2.4	-22.8	-23.0	1.6	1.6	3.7	2.5	5.1	0	2.6	2.6	2.5	2.6	0	5.1	5.1	0	5.1	5.1	
PLAY	2.9	3.0	-27.0	-27.0	-26.9	2.9	-26.9	-26.9	2.9	-19.8	-20.1	-20.2	-21.2	-21.3	2.1	2.1	3.6	2.5	5.1	0	3.1	2.8	3.1	2.9	0	5.1	5.1	0	5.1	5.1	
	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚
STOP	5.1	4.4	4.0	3.0	5.1	0	5.1	0	0	0	0	2.3	2.5	2.5	0	5.0	0	0	0	0.1	5.1	5.1	5.1	5.1	5.1						
PLAY	5.1	4.5	4.2	3.0	5.1	0	3.1	0	0	0	0	2.3	2.9	2.9	0	5.1	0	0	0	0.1	5.1	5.1	5.1	5.1	5.1						

## IC6002

	①	②	③
STOP	5.1	0	5.1
PLAY	5.1	0	5.1

## IC6003

	①	②	③
STOP	5.1	0	5.1
PLAY	5.1	0	5.1

## IC6004

	①	②	③	④	⑤
STOP	2.7	2.7	0	4.4	5.1
PLAY	2.7	2.7	0	4.5	5.1

## IC6005

	①	②	③	④	⑤
STOP	2.5	2.5	0	4.0	5.1
PLAY	2.5	2.5	0	4.0	5.1

## TRANSISTOR

## Q3501

	(E)	(C)	(B)
STOP	1.7	0	1.0
PLAY	1.9	0	1.3

## Q3502

	(E)	(C)	(B)
STOP	1.1	4.9	1.7
PLAY	1.3	4.9	1.9

## Q3503

	(E)	(C)	(B)
STOP	1.7	0	1.0
PLAY	1.9	0	1.2

## Q3511

	(E)	(C)	(B)
STOP	3.1	0	2.5
PLAY	3.1	0	2.5

## Q3512

	(E)	(C)	(B)
STOP	2.5	4.9	3.1
PLAY	2.5	4.9	3.1

## Q3513

	(E)	(C)	(B)
STOP	1.8	0	1.2
PLAY	1.8	0	1.2

## Q3561

	(E)	(C)	(B)
STOP	0.9	4.9	1.5
PLAY	0.9	4.9	1.5

## Q3571

	(E)	(C)	(B)
STOP	0.9	4.9	1.5
PLAY	0.9	4.9	1.5

## Q3601

	(E)	(C)	(B)
STOP	1.3	2.2	2.0
PLAY	1.3	2.2	2.0

## Q3602

	(E)	(C)	(B)
STOP	1.5	4.9	2.2
PLAY	1.5	4.9	2.2

## Q3603

	(E)	(C)	(B)
STOP	3.2	0	2.5
PLAY	3.2	0	2.5

## Q4301

	(E)	(C)	(B)
STOP	0	8.9	-1.6
PLAY	0	0	-1.4

## Q4302

	(E)	(C)	(B)
STOP	0	8.9	0
PLAY	0	8.9	0

## Q4303

	(E)	(C)	(B)
STOP	0	8.9	0
PLAY	0	8.9	0

## Q4311

	(E)	(C)	(B)
STOP	0	0	-2.1
PLAY	0	0	-1.4

## Q4312

	(E)	(C)	(B)
STOP	0	8.9	0
PLAY	0	8.9	0

## Q4313

	(E)	(C)	(B)
STOP	0	8.9	0
PLAY	0	8.9	0

## Q4401

	(E)	(C)	(B)
STOP	-0.8	9.0	-0.2
PLAY	-0.8	9.0	-0.2

## Q4411

	(E)	(C)	(B)
STOP	-0.9	9.0	-0.2
PLAY	-0.9	9.0	-0.2

## Q4421

	(E)	(C)	(B)
STOP	-0.9	9.0	-0.2
PLAY	-0.9	9.0	-0.2

## Q4431

	(E)	(C)	(B)
STOP	-0.9	9.0	-0.2
PLAY	-0.9	9.0	-0.2

## Q4501

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4505

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	0.7

## Q4511

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4515

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4521

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4531

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4541

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4551

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4561

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4562

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4571

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

## Q4572

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	0.7

## Q4601

	(E)	(C)	(B)
STOP	0	0	0.6
PLAY	0	0	0.6

## Q4602

	(E)	(C)	(B)
STOP	0	4.8	0
PLAY	0	4.8	0

# 14.4 MIC JACK C.B.A.

[TOP](#) [PREVIOUS](#) [NEXT](#)

IC

IC4691

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4952

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4953

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

IC4951

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	10	11	12	13	14	15	16
STOP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.0	0
PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.0	0

TRANSISTOR

Q4721

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

Q4722

	(E)	(C)	(B)
STOP	0	0	0.7
PLAY	0	0	-4.9

TRANSISTOR & RESISTOR

QR4951

	(E)	(C)	(B)
STOP	0	0	0
PLAY	0	0	0

[TOP](#) [PREVIOUS](#) [NEXT](#)



# 14.5 MIC VOLUME C.B.A.

[TOP](#) [PREVIOUS](#) [NEXT](#)

IC

IC4671

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STOP	0	0	0	-9.1	0	0	0	8.9
PLAY	0	0	0	-9.1	0	0	0	8.9

IC4731

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STOP	0	0	0	-9.1	0	0	0	8.9
PLAY	0	0	0	-9.1	0	0	0	8.9

Q4901

	(E)	(C)	(B)
STOP	9.0	9.0	8.3
PLAY	9.0	9.0	8.3

Q4911

	(E)	(C)	(B)
STOP	-8.9	-10.6	-9.5
PLAY	-8.9	-10.6	-9.5

Q4912

	(E)	(C)	(B)
STOP	0	-9.5	-0.7
PLAY	0	-9.5	-0.7

Q4913

	(E)	(C)	(B)
STOP	-9.5	-9.5	-8.8
PLAY	-9.5	-9.5	-8.8

Q4951

	(1)	(2)	(3)
STOP	9.0	8.9	8.5
PLAY	9.0	8.9	8.5

Q4961

	(1)	(2)	(3)
STOP	-8.9	-8.8	-8.4
PLAY	-8.9	-8.8	-8.4

Q6009

	(E)	(C)	(B)
STOP	-24.1	-24.0	-23.3
PLAY	2.4	-22.1	-21.4

TRANSISTOR & RESISTOR

QR3521

	(E)	(C)	(B)
STOP	0	0	3.1
PLAY	0	0	3.1

QR3522

	(E)	(C)	(B)
STOP	0	0	3.1
PLAY	0	0	3.1

QR3601

	(E)	(C)	(B)
STOP	0	0	3.1
PLAY	0	0	3.1

QR4301

	(E)	(C)	(B)
STOP	0	9.0	0
PLAY	0	9.0	0

QR4302

	(E)	(C)	(B)
STOP	0.1	-2.1	0
PLAY	0.1	-1.9	0

QR4303

	(E)	(C)	(B)
STOP	0	0.1	2.9
PLAY	0	0.1	2.9

QR4311

	(E)	(C)	(B)
STOP	0	9.0	0
PLAY	0	9.0	0

QR4312

	(E)	(C)	(B)
STOP	9.0	8.8	8.9
PLAY	9.0	8.9	8.9

QR4501

	(E)	(C)	(B)
STOP	1.7	1.5	0
PLAY	1.7	1.5	0

QR4591

	(E)	(C)	(B)
STOP	0	5.1	0
PLAY	0	0	3.1

QR4592

	(E)	(C)	(B)
STOP	5.1	-3.0	5.1
PLAY	4.5	4.4	3.0

QR4593

	(E)	(C)	(B)
STOP	0	2.1	-3.0
PLAY	0	0	4.4

QR4594

	(E)	(C)	(B)
STOP	2.1	1.7	0
PLAY	0	-4.9	0

QR4595

	(E)	(C)	(B)
STOP	2.3	1.7	0.6
PLAY	5.1	-4.9	5.1

QR6001

	(E)	(C)	(B)
STOP	5.1	-0.5	5.1
PLAY	5.1	0.3	5.1

QR6002

	(E)	(C)	(B)
STOP	5.1	-0.5	5.1
PLAY	5.1	0.2	5.1

QR6003

	(E)	(C)	(B)
STOP	5.1	-0.3	5.1
PLAY	5.1	0.4	5.1

QR6004

	(E)	(C)	(B)
STOP	0	3.3	0.1
PLAY	0	3.3	0.1

QR6005

	(E)	(C)	(B)
STOP	5.1	-1.4	5.1
PLAY	5.1	-1.3	5.1

QR6006

	(E)	(C)	(B)
STOP	5.1	-1.5	5.1
PLAY	5.1	-1.3	5.1

QR6007

	(E)	(C)	(B)
STOP	5.1	5.0	0.2
PLAY	5.1	5.0	0.2

QR6008

	(E)	(C)	(B)
STOP	5.1	-5.0	3.7
PLAY	5.1	-3.8	3.6

[TOP](#) [PREVIOUS](#) [NEXT](#)

# 14.6 VIDEO COMPONENT C.B.A.

[TOP](#) [PREVIOUS](#) [NEXT](#)

IC																
IC3581																
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	0	0	0	0.9	0	0.2	0.9	0	2.6	2.7	0.5	2.6	2.7	0.8	0.7	4.9
PLAY	0	0	0	0.9	0	0.2	0.9	0	2.6	2.7	0.5	2.6	2.7	0.8	0.7	4.9

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# 14.7 HEADPHONE C.B.A.

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IC								
IC4731								
	①	②	③	④	⑤	⑥	⑦	⑧
STOP	0	0	0	-8.9	0	0	0	9.0
PLAY	0	0	0	-8.9	0	0	0	9.0

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# 15 BLOCK DIAGRAM

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[15.1 OVERALL BLOCK DIAGRAM](#)

[15.2 SERVO BLOCK DIAGRAM](#)

[15.3 VIDEO BLOCK DIAGRAM](#)

[15.4 AUDIO BLOCK DIAGRAM](#)

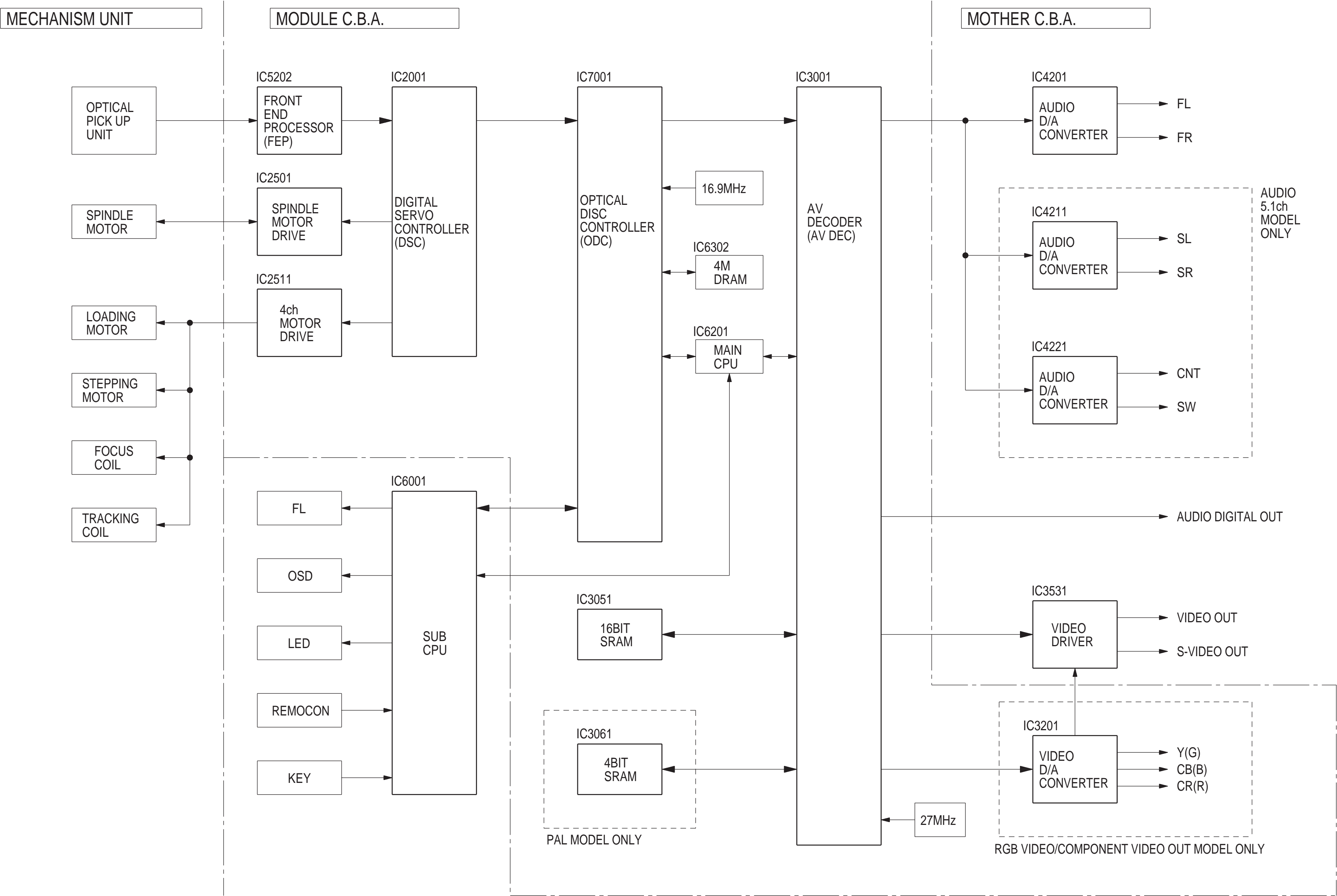
[TOP](#) [PREVIOUS](#) [NEXT](#)

# 15.1 OVERALL BLOCK DIAGRAM

[TOP](#) [PREVIOUS](#) [NEXT](#)



[TOP](#) [PREVIOUS](#) [NEXT](#)

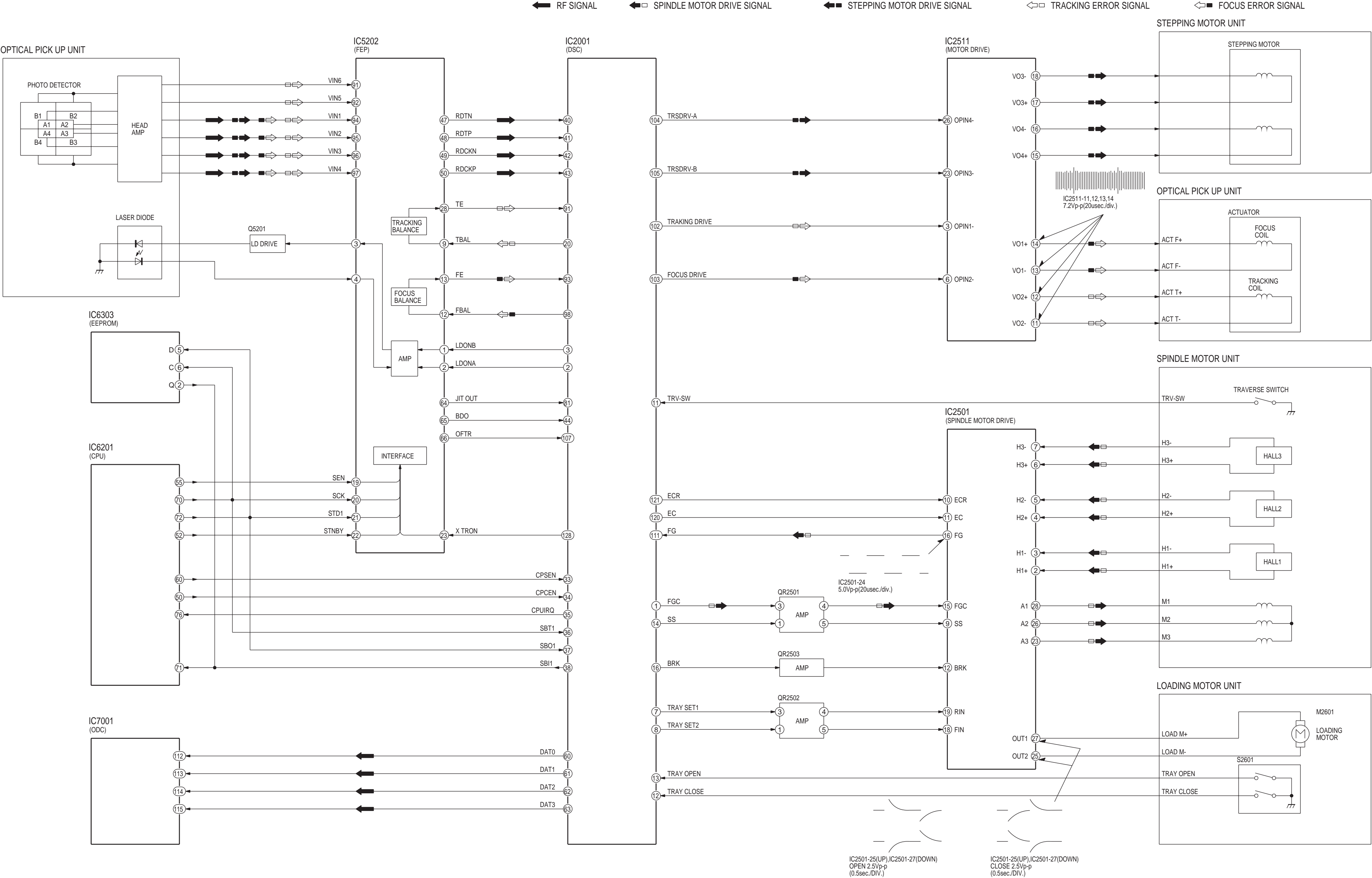


# 15.2 SERVO BLOCK DIAGRAM

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[TOP](#) [PREVIOUS](#) [NEXT](#)



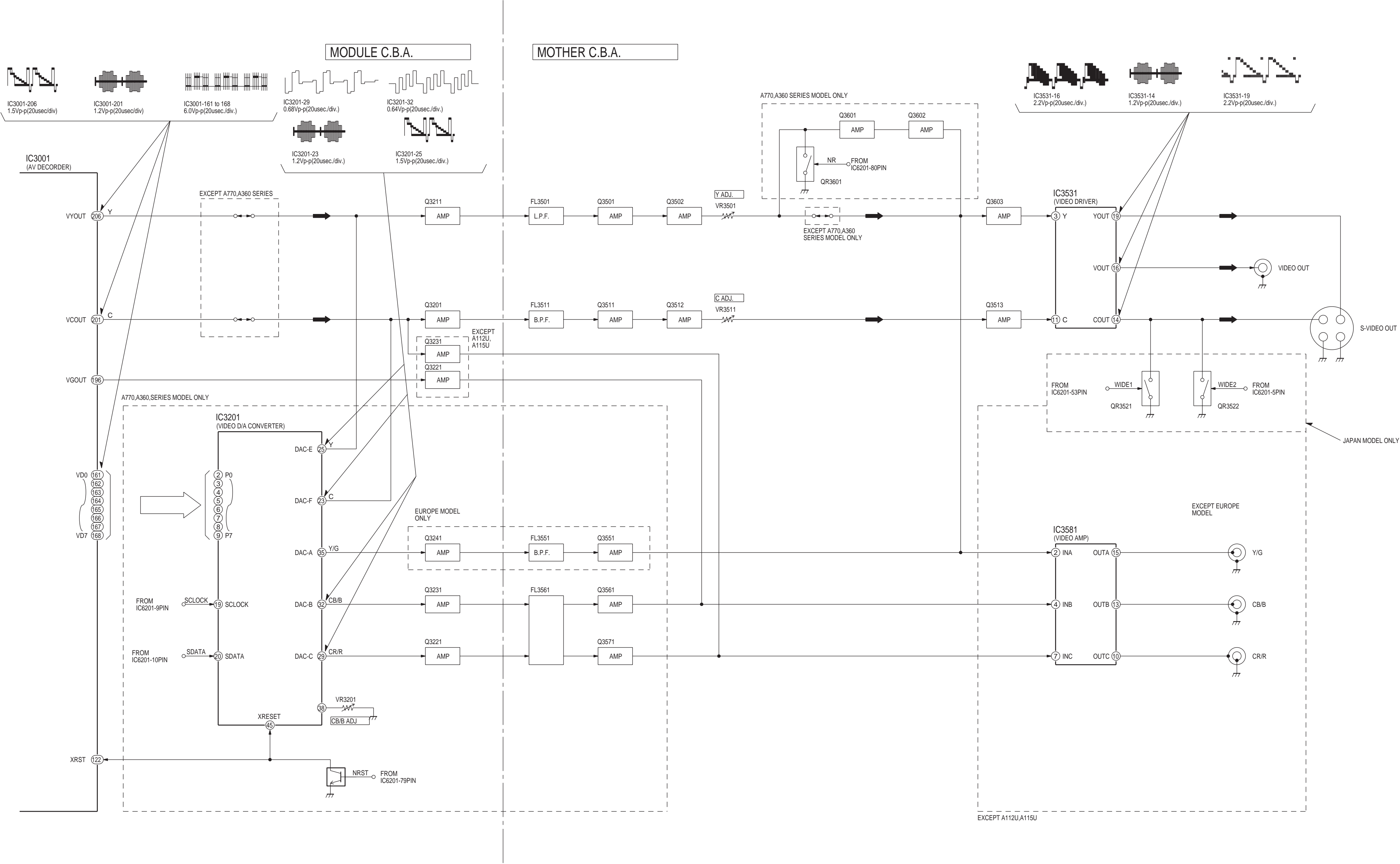


# 15.3 VIDEO BLOCK DIAGRAM

[TOP](#) [PREVIOUS](#) [NEXT](#)



[TOP](#) [PREVIOUS](#) [NEXT](#)

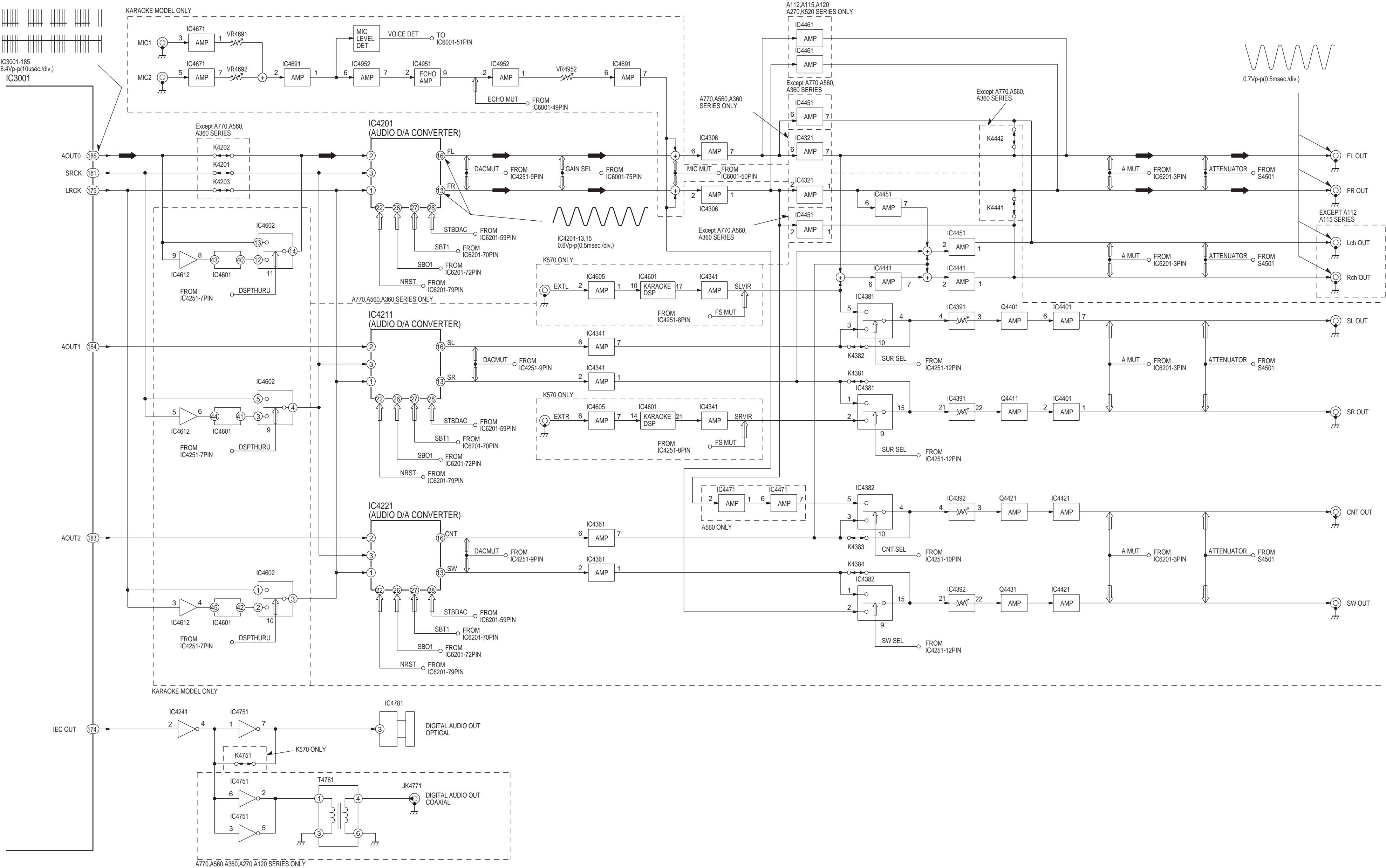


# 15.4 AUDIO BLOCK DIAGRAM

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# 16 SCHEMATIC DIAGRAM

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[16.1 INTER CONNECTION SCHEMATIC DIAGRAM](#)

[16.2 POWER SUPPLY SCHEMATIC DIAGRAM](#)

[16.3 ADSC SECTION \(MODULE C.B.A. \(1/7\)\) SCHEMATIC DIAGRAM](#)

[16.4 SERVO SECTION \(MODULE C.B.A. \(2/7\)\) SCHEMATIC DIAGRAM](#)

[16.5 AV DECORDER SECTION \(MODULE C.B.A. \(3/7\)\) SCHEMATIC DIAGRAM](#)

[16.6 AUDIO SECTION \(MODULE C.B.A. \(4/7\)\) SCHEMATIC DIAGRAM](#)

[16.7 FEP SECTION \(MODULE C.B.A. \(5/7\)\) SCHEMATIC DIAGRAM](#)

[16.8 CPU SECTION \(MODULE C.B.A. \(6/7\)\) SCHEMATIC DIAGRAM](#)

[16.9 ODC SECTION \(MODULE C.B.A. \(7/7\)\) SCHEMATIC DIAGRAM](#)

[16.10 VIDEO OUT SECTION \(MOTHER C.B.A. \(1/3\)\) SCHEMATIC DIAGRAM](#)

[16.11 AUDIO OUT SECTION \(MOTHER C.B.A. \(2/3\)\) SCHEMATIC DIAGRAM](#)

[16.12 OPERATION SECTION \(MOTHER C.B.A. \(2/3\)\) SCHEMATIC DIAGRAM](#)

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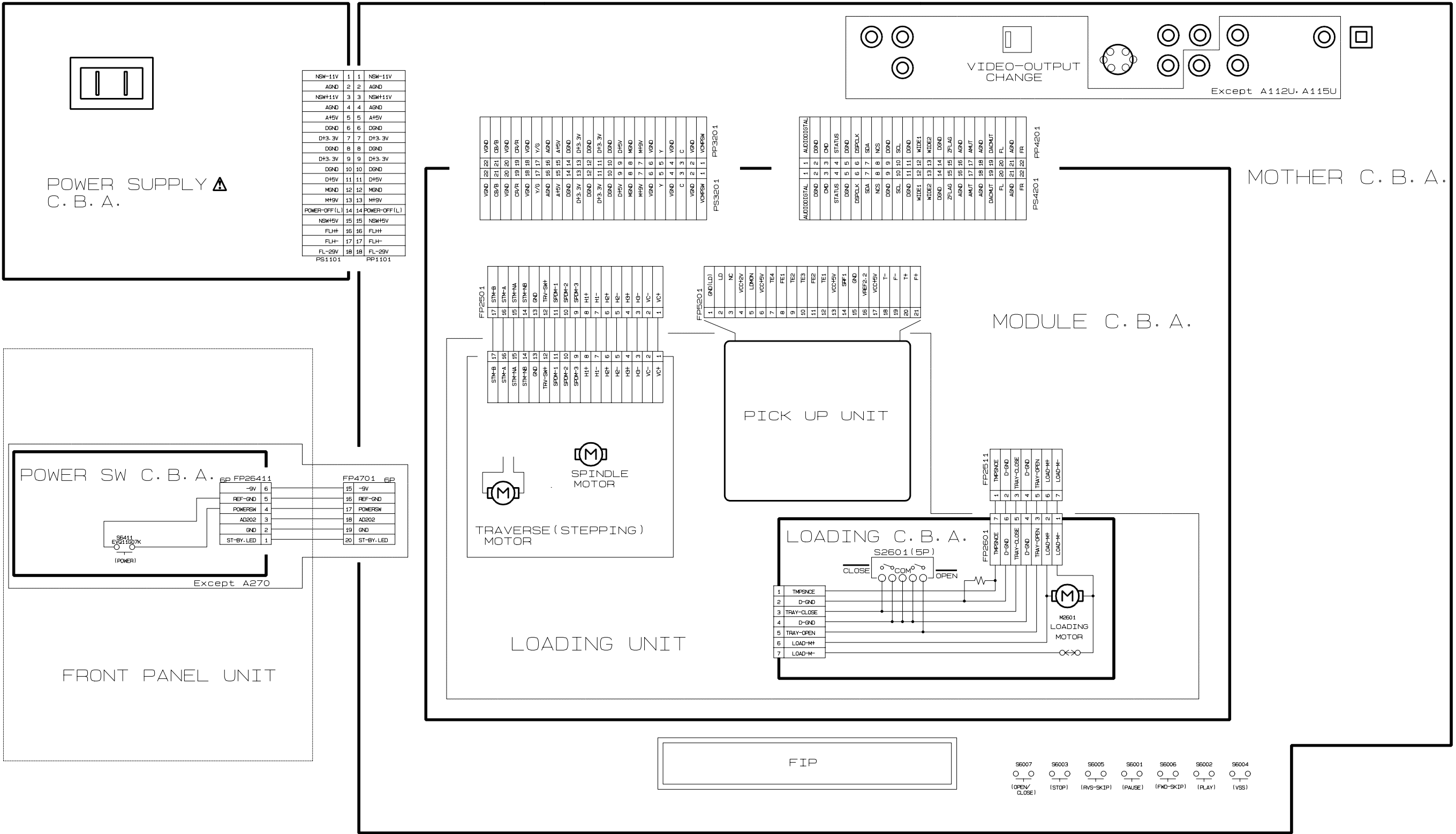
# 16.1 INTER CONNECTION SCHEMATIC DIAGRAM

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INTERCONNECTION DIAGRAM



# 16.3 ADSC SECTION (MODULE C.B.A. (1/7)) SCHEMATIC DIAGRAM

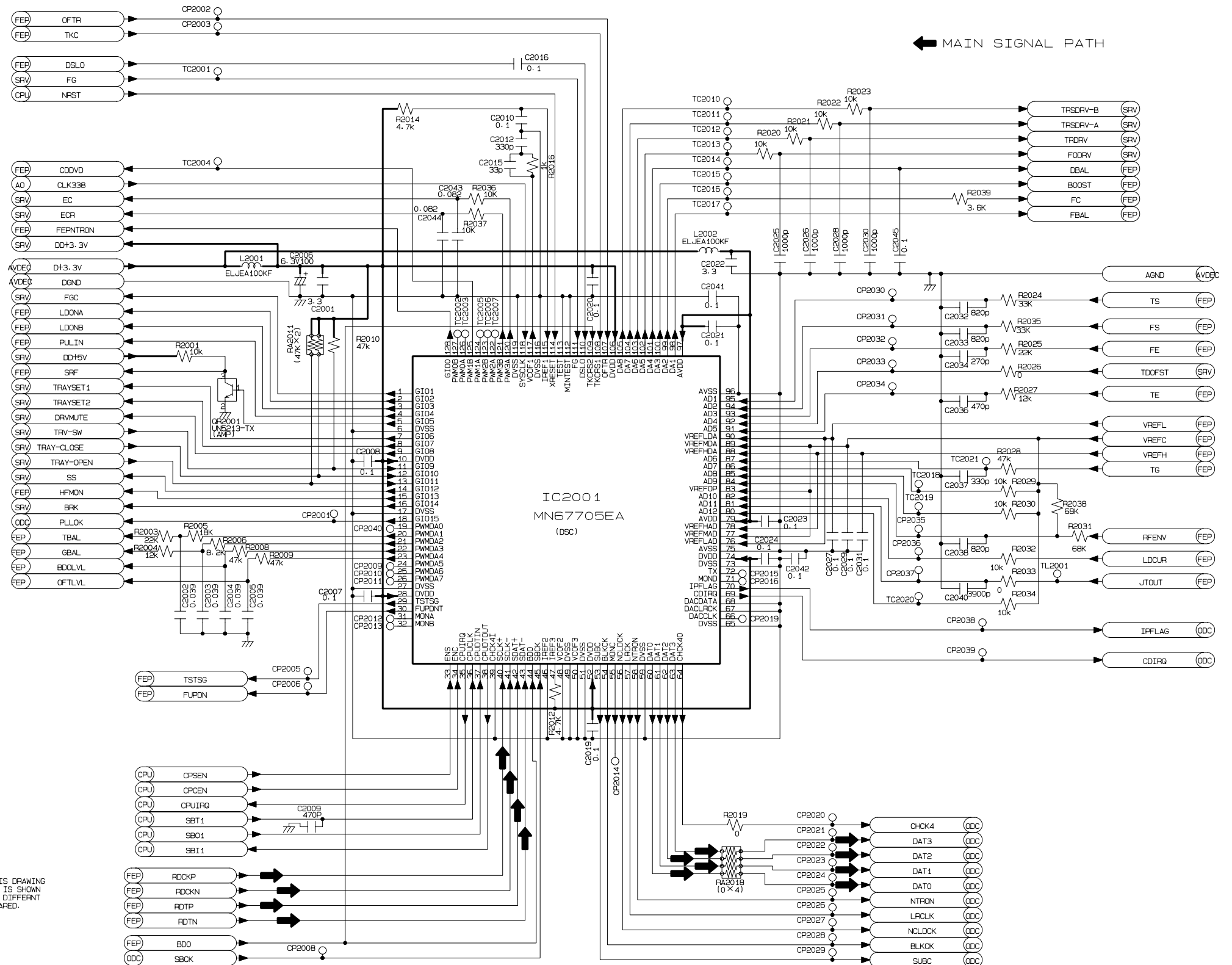
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ADSC/module(1/7)



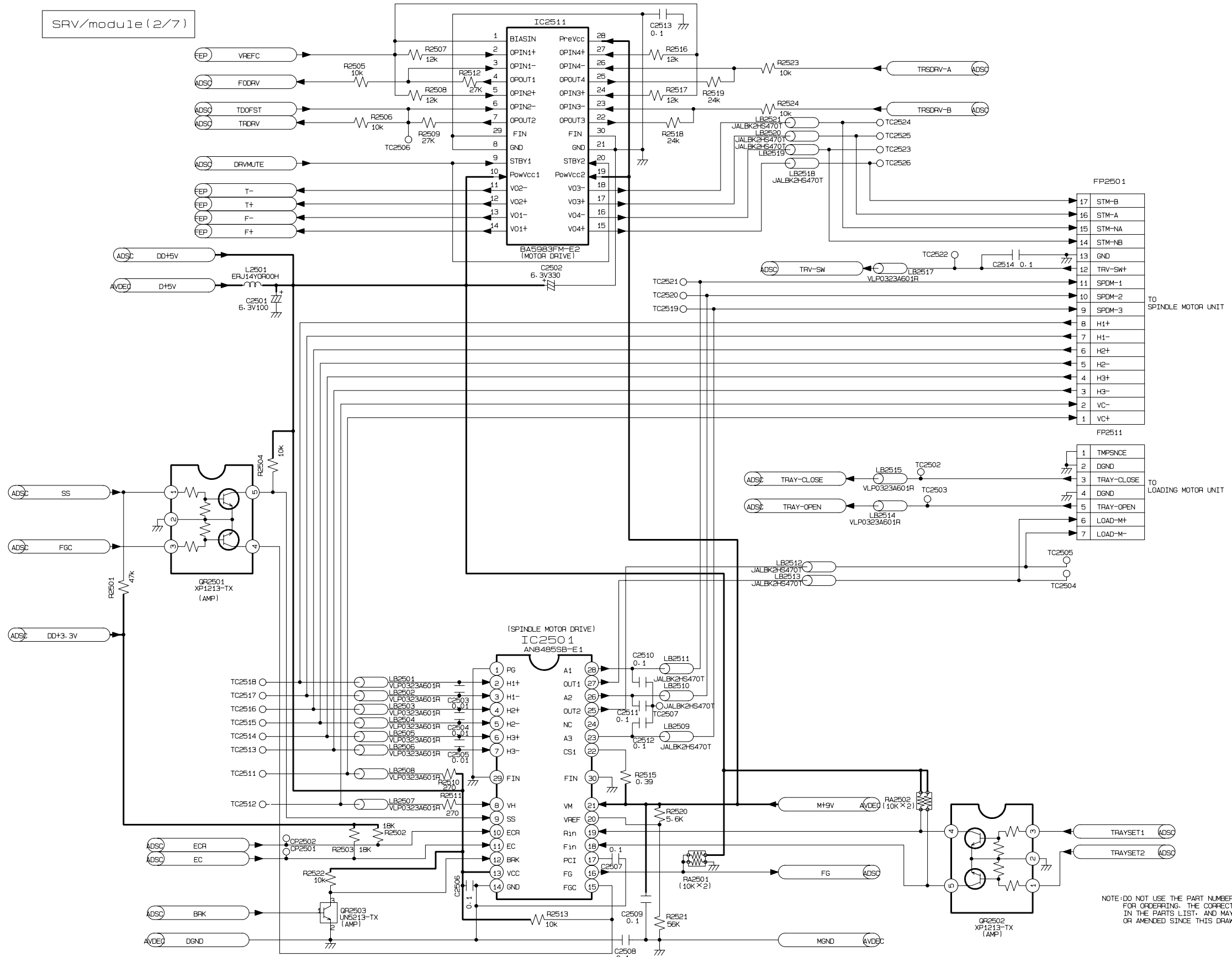
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING  
FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN  
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT  
OR AMENDED SINCE THIS DRAWING WAS PREPARED.

# 16.4 SERVO SECTION (MODULE C.B.A. (2/7)) SCHEMATIC DIAGRAM

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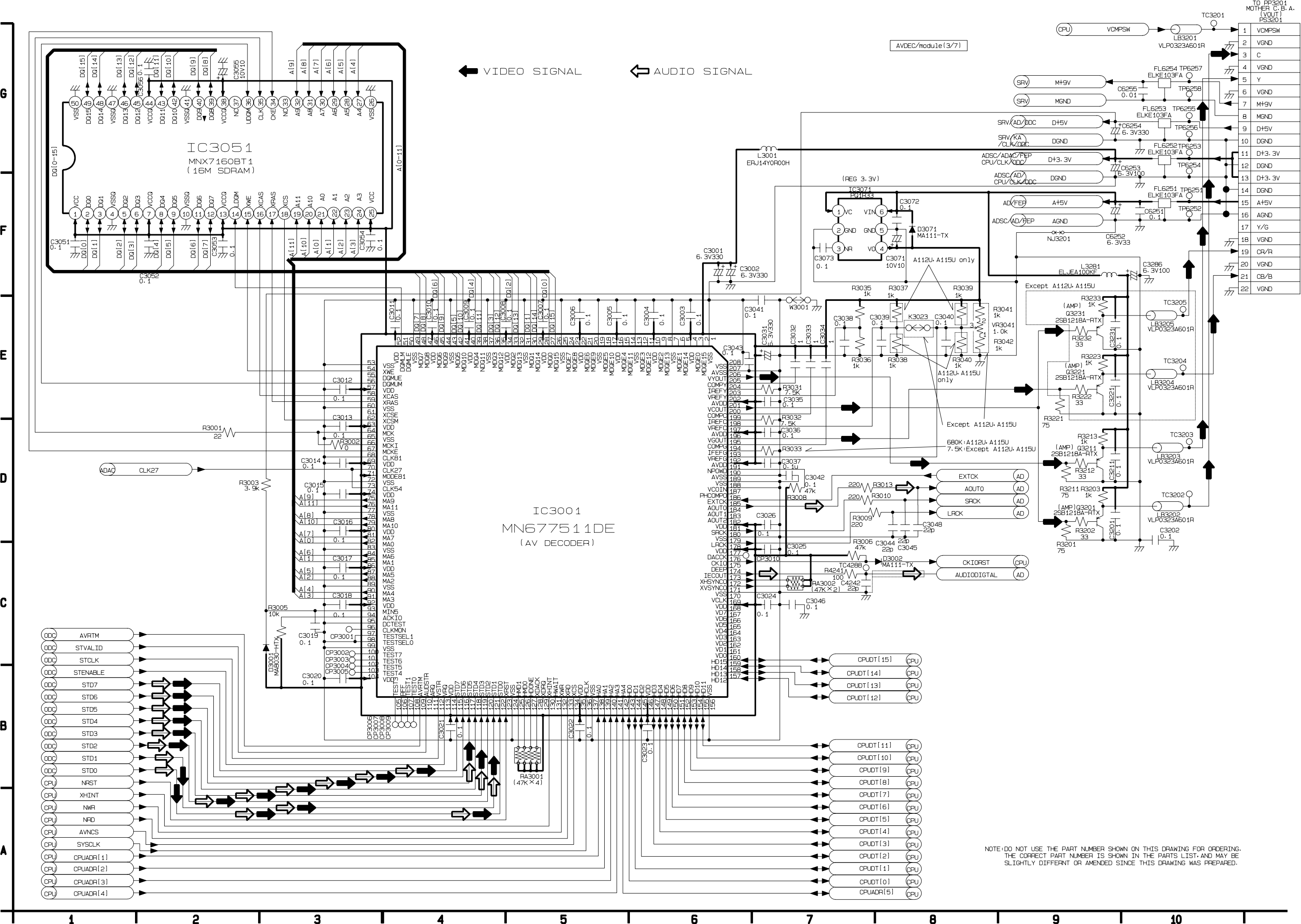


# 16.5 AV DECODER SECTION (MODULE C.B.A. (3/7)) SCHEMATIC DIAGRAM

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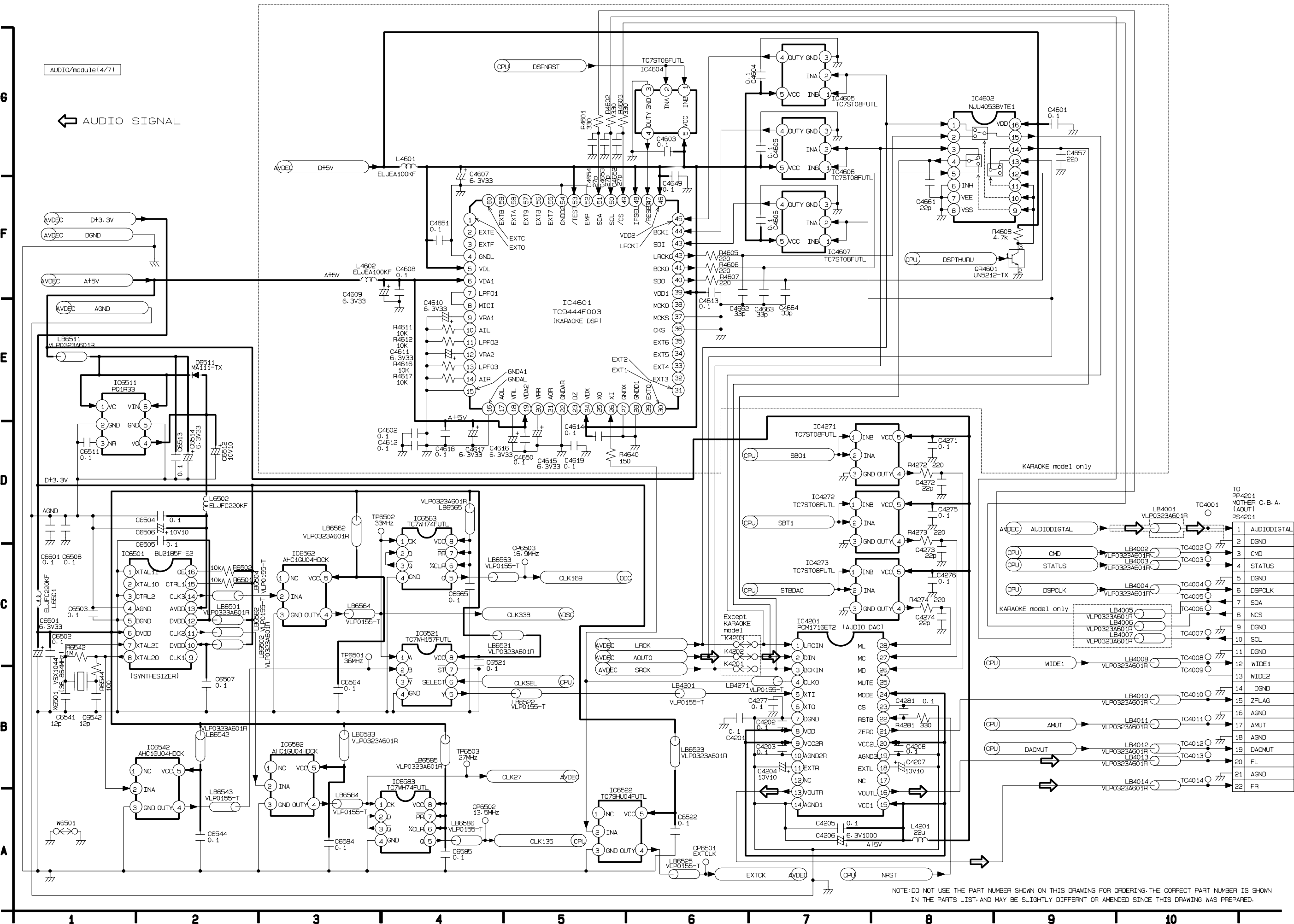


# 16.6 AUDIO SECTION (MODULE C.B.A. (4/7)) SCHEMATIC DIAGRAM

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# 16.7 FEP SECTION (MODULE C.B.A. (5/7)) SCHEMATIC DIAGRAM

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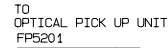


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FEP/module(5/7)

← MAIN SIGNAL PATH



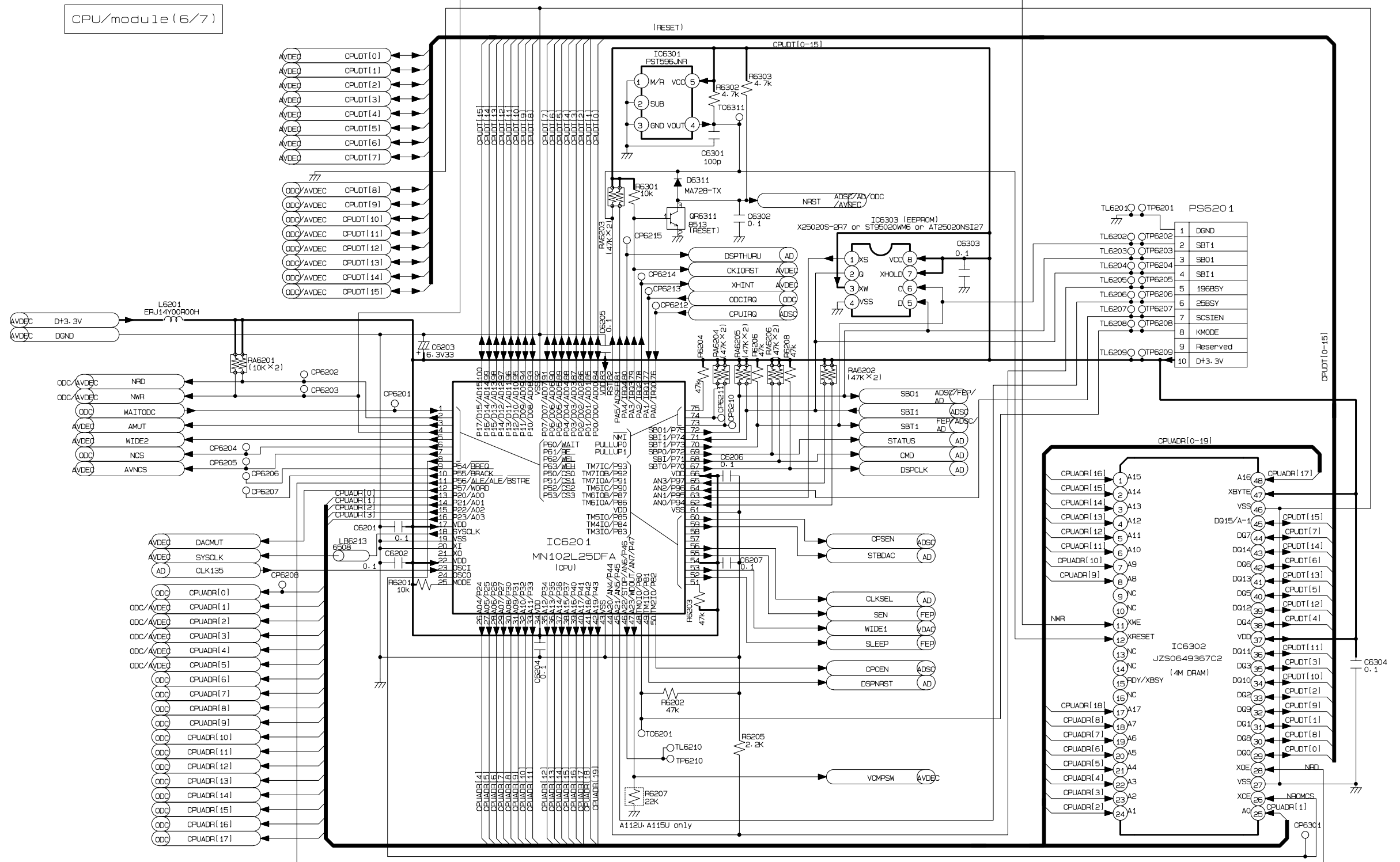
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.  
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE  
SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

# 16.8 CPU SECTION (MODULE C.B.A. (6/7)) SCHEMATIC DIAGRAM

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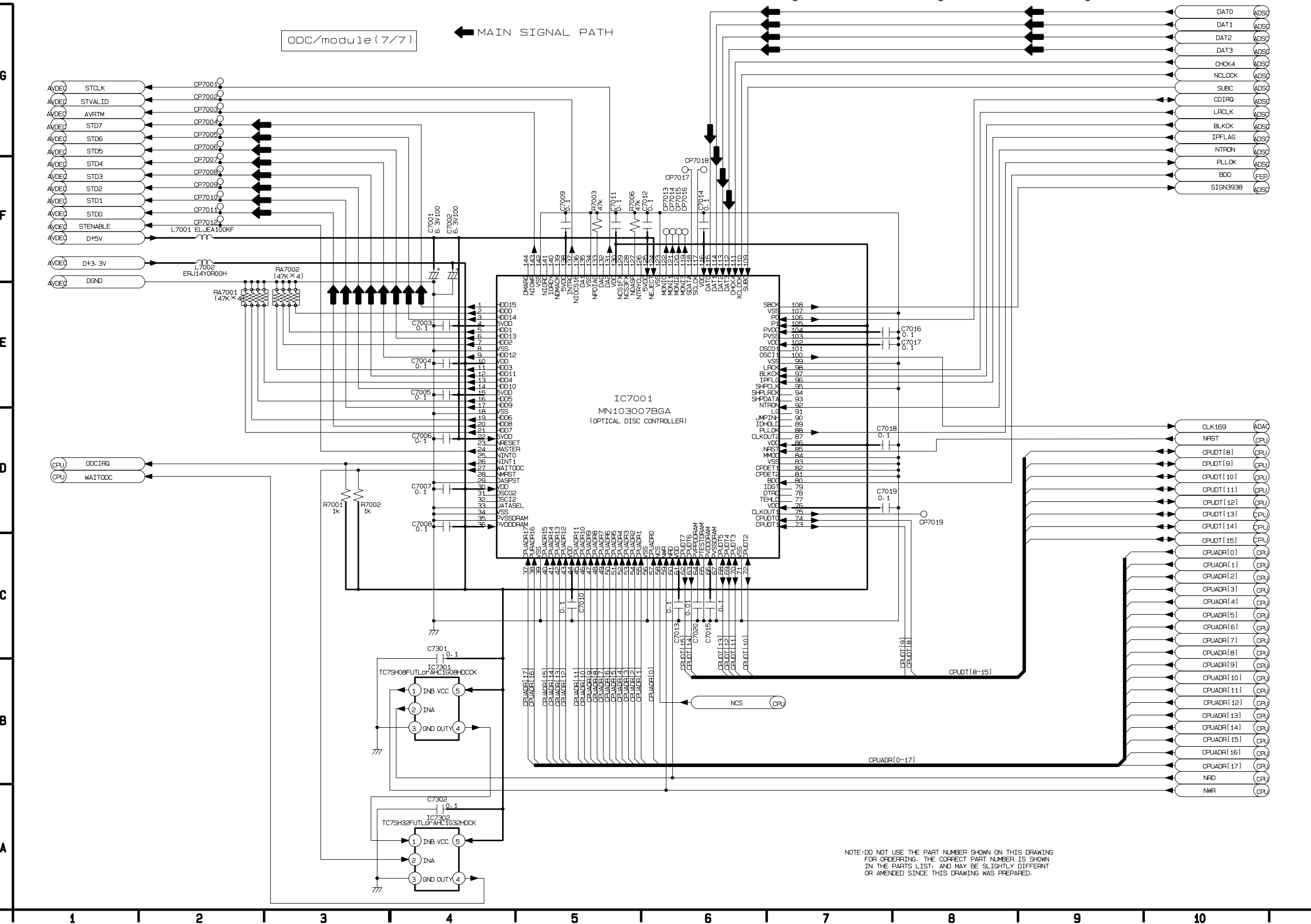
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING  
FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN  
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT  
OR AMENDED SINCE THIS DRAWING WAS PREPARED.

# 16.9 ODC SECTION (MODULE C.B.A. (7/7)) SCHEMATIC DIAGRAM

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# 16.10 VIDEO OUT SECTION (MOTHER C.B.A. (1/3)) SCHEMATIC DIAGRAM

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G

F

E

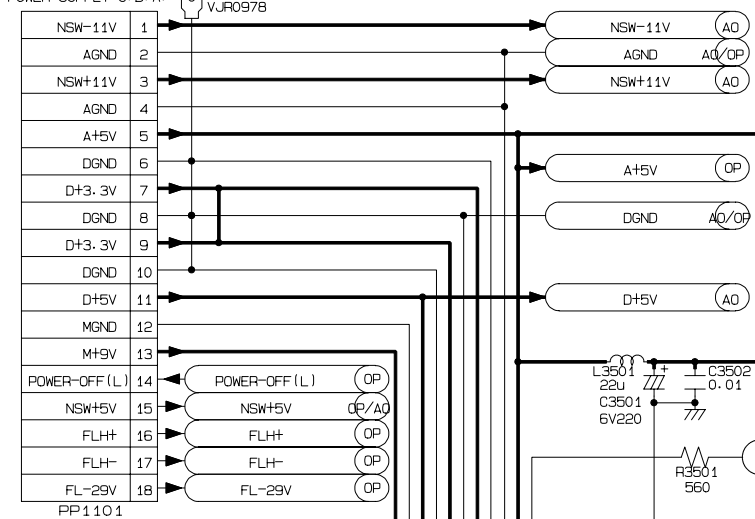
D

C

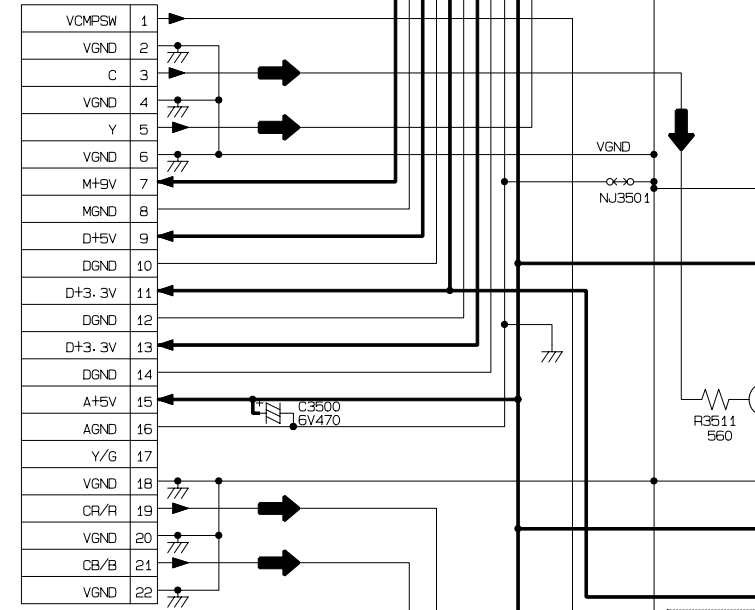
B

A

TO  
PS1101  
POWER SUPPLY C.B.A.  
0 ZA3501  
VJR0978



TO  
PS3201  
MODULE C.B.A. (AVDEC)  
PP3201



Ref.No. 23500-23699  
VIDEO-out/mother (1/3)

← VIDEO SIGNAL

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.  
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE  
SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

1 2 3 4 5 6 7 8 9 10

# 16.11 AUDIO OUT SECTION (MOTHER C.B.A. (2/3)) SCHEMATIC DIAGRAM

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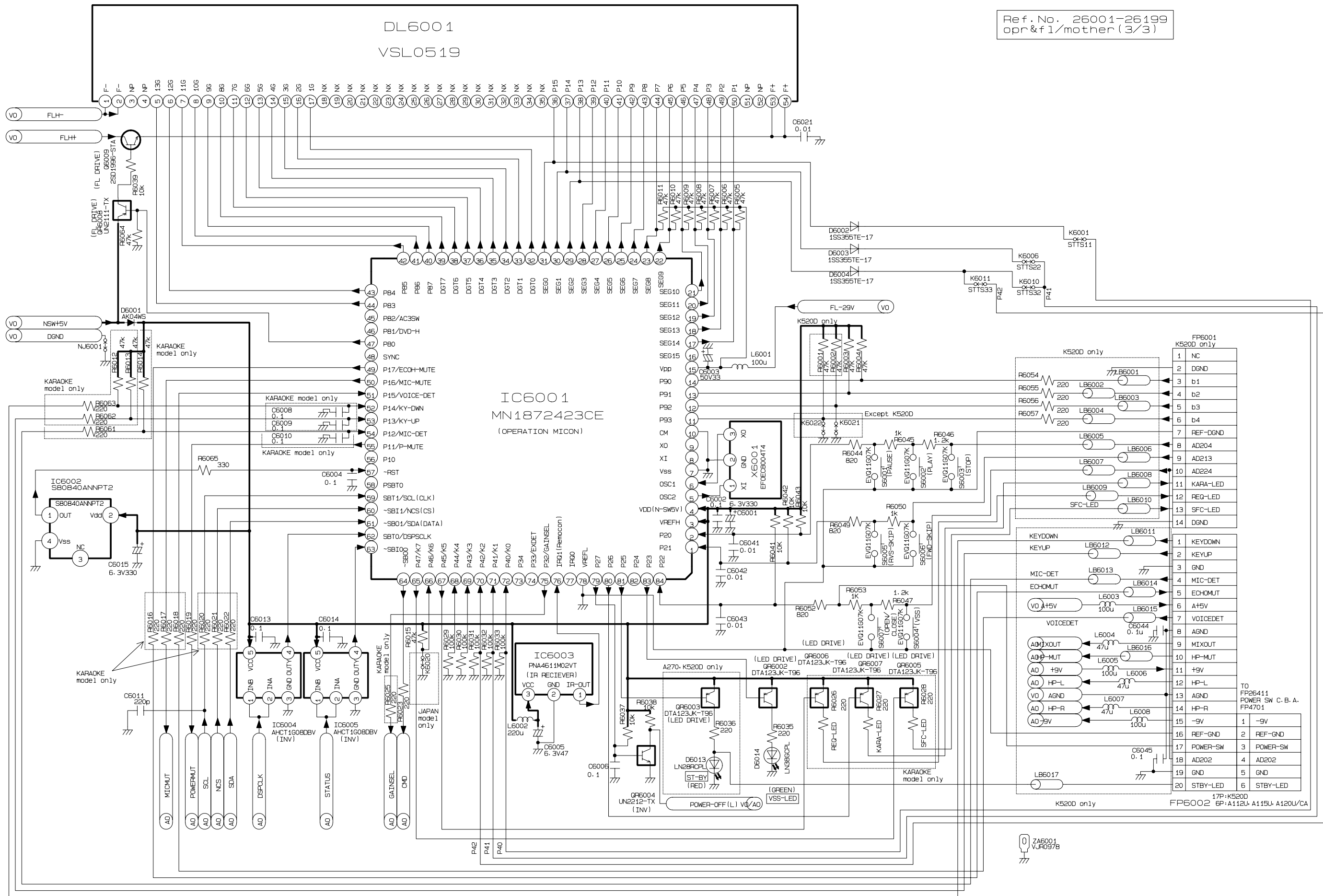
# 16.12 OPERATION SECTION (MOTHER C.B.A. (2/3)) SCHEMATIC DIAGRAM

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Ref. No. 26001-26199  
opr&f1/mother (3/3)



K520D only		FP6001 K520D only	
1	NC	1	NC
2	DGND	2	DGND
3	b1	3	b1
4	b2	4	b2
5	b3	5	b3
6	b4	6	b4
7	REF-DGND	7	REF-DGND
8	AD204	8	AD204
9	AD213	9	AD213
10	AD224	10	AD224
11	KARA-LED	11	KARA-LED
12	REQ-LED	12	REQ-LED
13	SFC-LED	13	SFC-LED
14	DGND	14	DGND

K520D only		FP6002 17P:K520D 6P:A112U, A115U, A120U/CA	
1	KEYDOWN	1	KEYDOWN
2	KEYUP	2	KEYUP
3	GND	3	GND
4	MIC-DET	4	MIC-DET
5	ECHOMUT	5	ECHOMUT
6	A+5V	6	A+5V
7	VOICEDET	7	VOICEDET
8	AGND	8	AGND
9	MIXOUT	9	MIXOUT
10	HP-MUT	10	HP-MUT
11	+9V	11	+9V
12	HP-L	12	HP-L
13	AGND	13	AGND
14	HP-R	14	HP-R
15	-9V	15	-9V
16	REF-GND	16	REF-GND
17	POWER-SW	17	POWER-SW
18	AD202	18	AD202
19	GND	19	GND
20	STBY-LED	20	STBY-LED

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

# 17 CIRCUIT BOARD ASSEMBLY

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[17.1 POWER SUPPLY C.B.A.](#)

[17.2 MODULE C.B.A. \(1/2\) \(COMPONENT SIDE\)](#)

[17.3 MODULE C.B.A. \(2/2\) \(FOIL SIDE\)](#)

[17.4 MODULE C.B.A. AND MOTHER C.B.A. ADDRESS INFORMATION](#)

[17.5 MOTHER C.B.A.](#)

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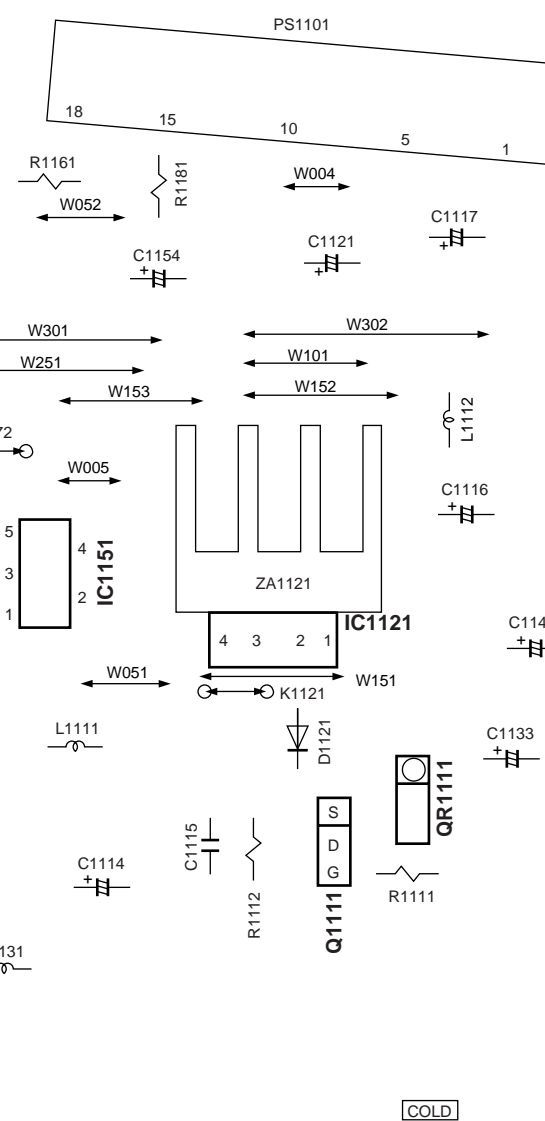
# 17.1 POWER SUPPLY C.B.A.

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THE STRIPED FRAME INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.  
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.



POWER SUPPLY C.B.A.			
Transistors		Integrated Circuits	
Q1041	E-3	IC1021	E-2
Q1111	D-6	IC1101	F-3
Transistor-resistors		IC1151	E-5
QR1111	D-6	IC1211	E-6
		Connectors	
		P1001	B-6
		PS1101	F-6

### ADDRESS INFORMATION

# 17.2 MODULE C.B.A. (1/2)

## (COMPONENT SIDE)

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[TOP](#) [PREVIOUS](#) [NEXT](#)

**F**

A

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---



# 17.3 MODULE C.B.A. (2/2) (FOIL SIDE)

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**(FOIL SIDE)**

# 17.4 MODULE C.B.A. AND MOTHER C.B.A. ADDRESS INFORMATION

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MODULE C.B.A.														
Transistors			IC4271	E-2	Ⓒ	Transistors			Adjustments					
Q3201	E-7	Ⓒ		IC4272	D-2	Ⓒ	TP5201	B-3	Ⓒ	VR3041	E-13	Ⓖ		
Q3211	E-8	Ⓒ		IC4273	E-2	Ⓒ		TP5206	B-3	Ⓒ	Connectors			
Q3221	E-8	Ⓒ		IC4601	E-17	Ⓖ		TP5207	B-3	Ⓒ	FP2501	A-5	Ⓒ	
Q3231	E-7	Ⓒ		IC4602	E-3	Ⓒ		TP5208	A-3	Ⓒ		FP2511	A-7	Ⓒ
Q5201	A-16	Ⓖ		IC4604	D-16	Ⓖ		TP6201	D-1	Ⓒ		FP5201	A-15	Ⓖ
Transistor-resistors				IC4605	D-16	Ⓖ		TP6202	F-3	Ⓒ		PS3201	F-8	Ⓒ
QR2001	B-14	Ⓖ	IC4606	E-16	Ⓖ	TP6203	B-3	Ⓒ	PS4201	F-3		Ⓒ		
QR2501	B-11	Ⓖ	IC4607	E-16	Ⓖ	TP6204	F-4	Ⓒ	PS6201	E-15		Ⓖ		
QR2502	B-12	Ⓖ	IC5201	A-3	Ⓒ	TP6205	C-1	Ⓒ						
QR2503	C-12	Ⓖ	IC5202	B-4	Ⓒ	TP6206	D-1	Ⓒ						
QR4601	E-3	Ⓒ	IC6201	C-18	Ⓖ	TP6207	D-1	Ⓒ						
QR5201	B-15	Ⓖ	IC6301	D-17	Ⓖ	TP6208	D-1	Ⓒ						
QR5202	B-5	Ⓒ	IC6302	B-2	Ⓒ	TP6209	D-1	Ⓒ						
QR5203	B-3	Ⓒ	IC6303	D-2	Ⓒ	TP6210	C-1	Ⓒ						
QR6311	D-17	Ⓖ	IC6501	E-15	Ⓖ	TP6251	F-8	Ⓒ						
Integrated Circuits			IC6511	F-4	Ⓒ	TP6252	F-8	Ⓒ						
IC2001	C-14	Ⓖ	IC6521	D-15	Ⓖ	TP6253	E-8	Ⓒ						
IC2501	B-8	Ⓒ	IC6522	D-2	Ⓒ	TP6254	F-9	Ⓒ						
IC2511	B-7	Ⓒ	IC6542	E-4	Ⓒ	TP6255	E-8	Ⓒ						
IC3001	E-6	Ⓒ	IC6562	E-4	Ⓒ	TP6256	E-8	Ⓒ						
IC3051	E-14	Ⓖ	IC6563	E-4	Ⓒ	TP6257	E-8	Ⓒ						
IC3071	D-7	Ⓒ	IC6582	E-5	Ⓒ	TP6258	E-8	Ⓒ						
IC4201	E-3	Ⓒ	IC6583	D-15	Ⓖ	TP6501	E-4	Ⓒ						
			IC7001	C-16	Ⓖ	TP6502	E-4	Ⓒ						
			IC7301	D-3	Ⓒ	TP6503	E-5	Ⓒ						
			IC7302	D-3	Ⓒ									

ADDRESS INFORMATION

Ⓒ ... COMPONENT SIDE

Ⓖ ... FOIL SIDE

MOTHER C.B.A.							
Transistors		Transistor-resistors		Integrated Circuits		Adjustments	
Q3501	C-4	QR3521	A-4	IC3531	B-4	VR3501	B-3
Q3502	B-3	QR3581	C-3	IC3581	B-3	VR3511	B-3
Q3503	B-4	QR4301	C-7	IC4306	B-6	Connectors	
Q3511	C-4	QR4302	D-6	IC4461	C-6		
Q3512	B-4	QR4303	D-6	IC4701	B-6	FP6001	F-7
Q3513	A-4	QR4311	C-7	IC4751	B-7	FP6002	E-2
Q3561	B-3	QR4501	A-3	IC4752	B-7	PP1101	A-2
Q3571	B-3	QR4591	D-2	IC4781	A-7	PP3201	C-2
Q4301	D-6	QR4592	D-2	IC4901	E-7	PP4201	C-5
Q4302	C-6	QR4593	D-2	IC6001	F-4	JK3541	A-4
Q4303	C-6	QR4594	D-2	IC6002	F-3	JK3591	A-2
Q4311	D-6	QR4595	D-3	IC6003	F-2	JK4501	A-6
Q4312	B-7	QR4901	E-7	IC6004	E-3	JK4771	A-7
Q4313	B-6	QR4913	E-6	IC6005	E-4		
Q4501	A-5	QR6002	F-5				
Q4505	A-4	QR6003	F-6				
Q4511	B-5	QR6004	E-6				
Q4515	B-5	QR6005	F-6				
Q4561	B-6	QR6006	F-6				
Q4562	B-6	QR6007	F-6				
Q4571	B-6	QR6008	D-2				
Q4572	B-6						
Q4911	E-6						
Q4912	E-7						
Q6009	D-2						

ADDRESS INFORMATION

# 17.5 MOTHER C.B.A.

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# 18 EXPLODED VIEWS

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[18.1 Casing Parts& Mechanism Section Exploded View](#)

[18.2 Loading Mechanism Section Exploded View](#)

[18.3 Traverse Section Exploded View](#)

[18.4 Packing& Accessories Section Exploded View](#)

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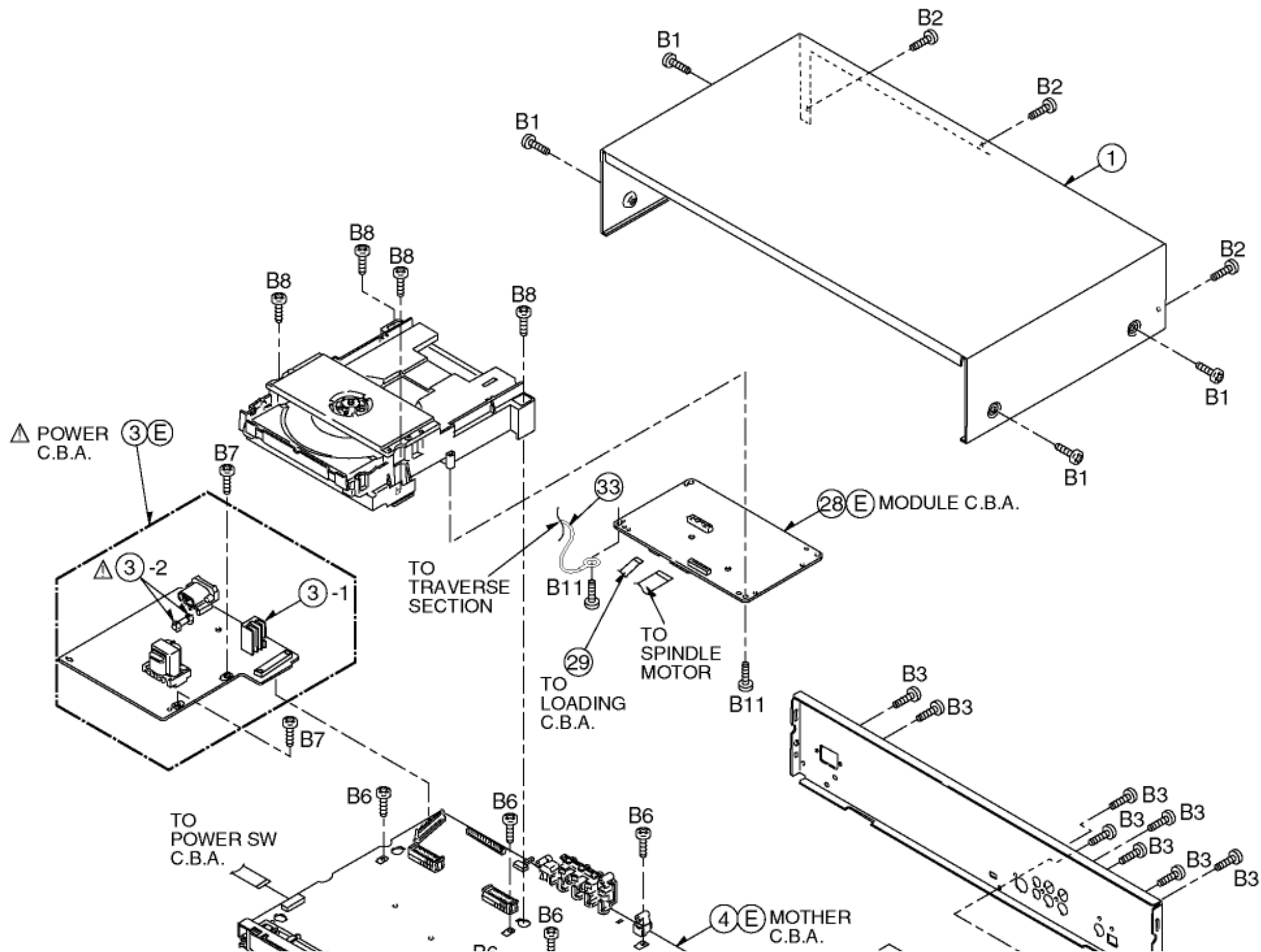
# 18.1 Casing Parts& Mechanism Section Exploded View

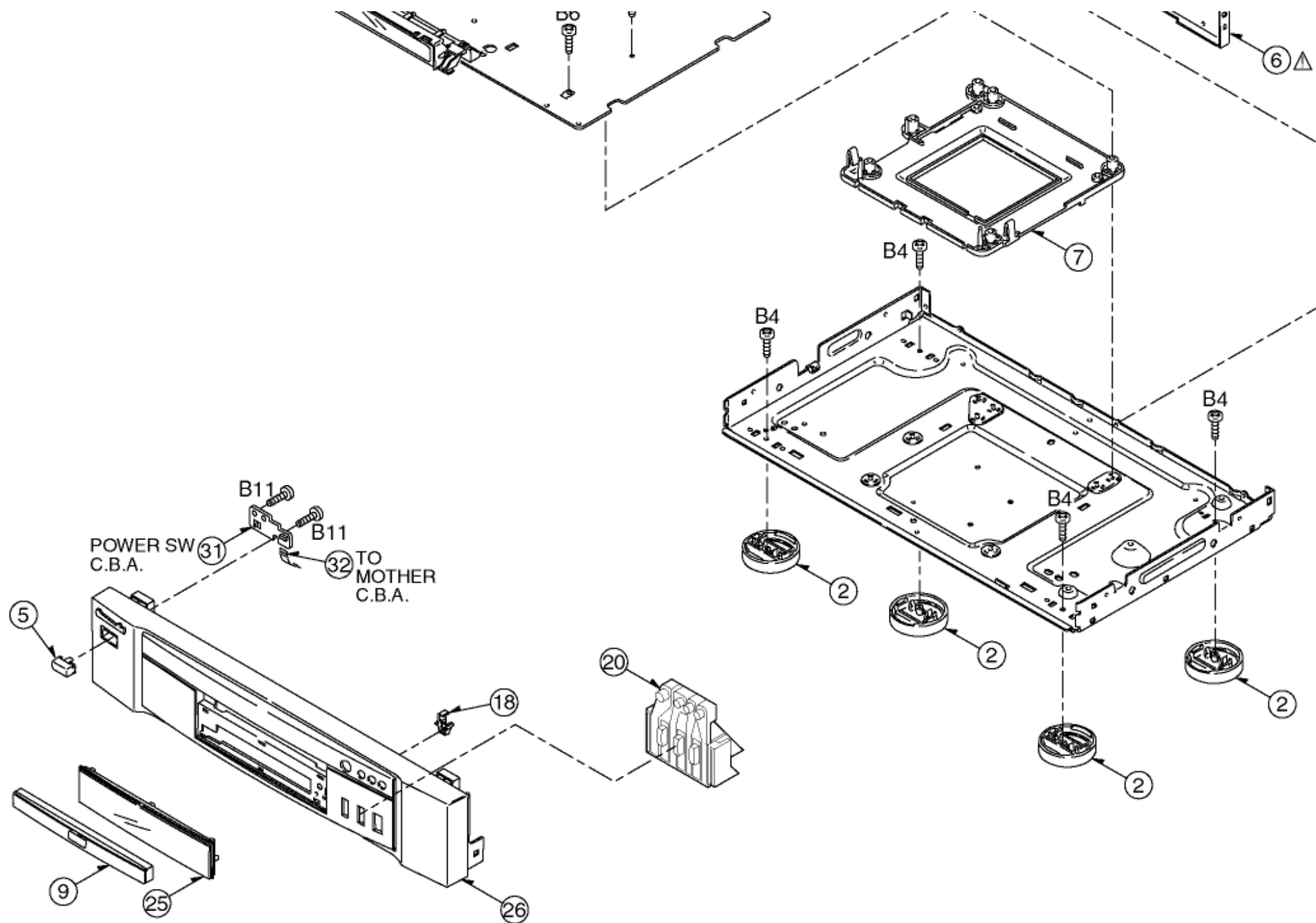
[TOP](#) [PREVIOUS](#) [NEXT](#)



[TOP](#) [PREVIOUS](#) [NEXT](#)





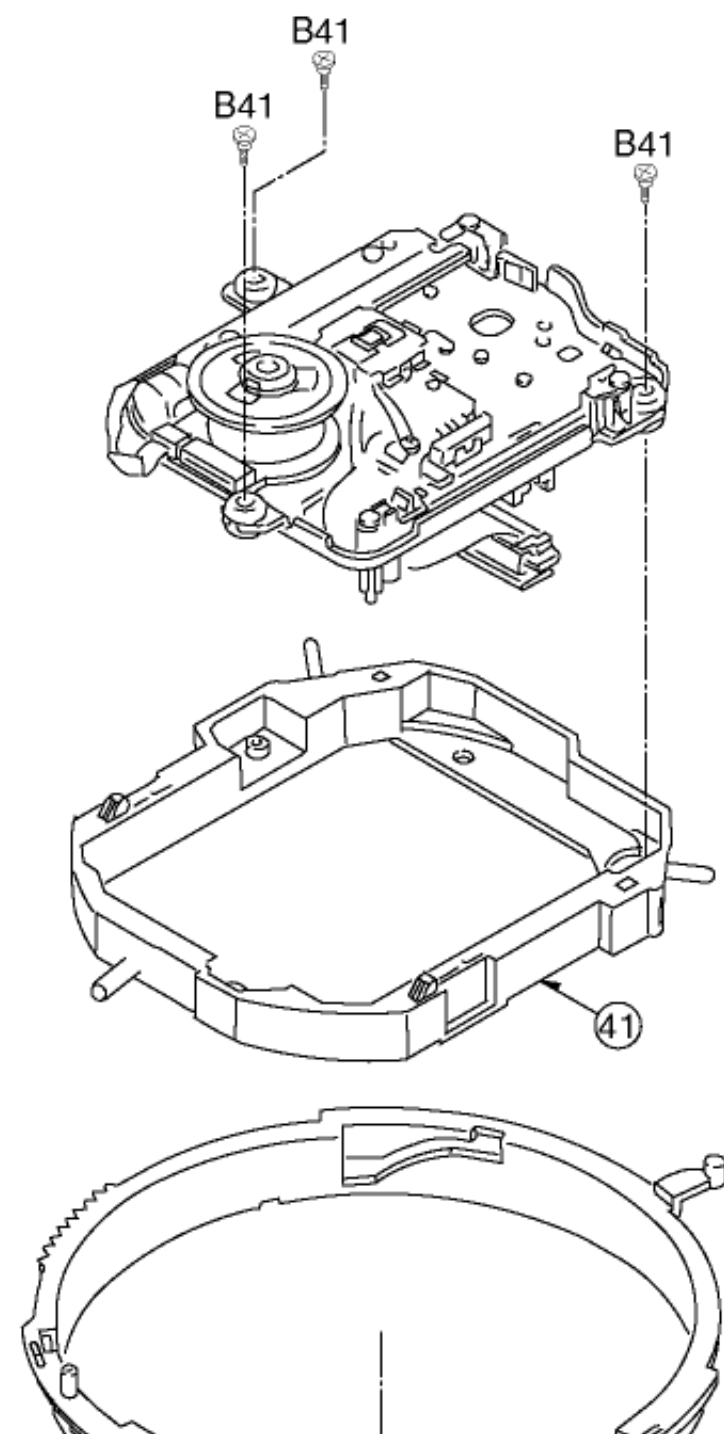
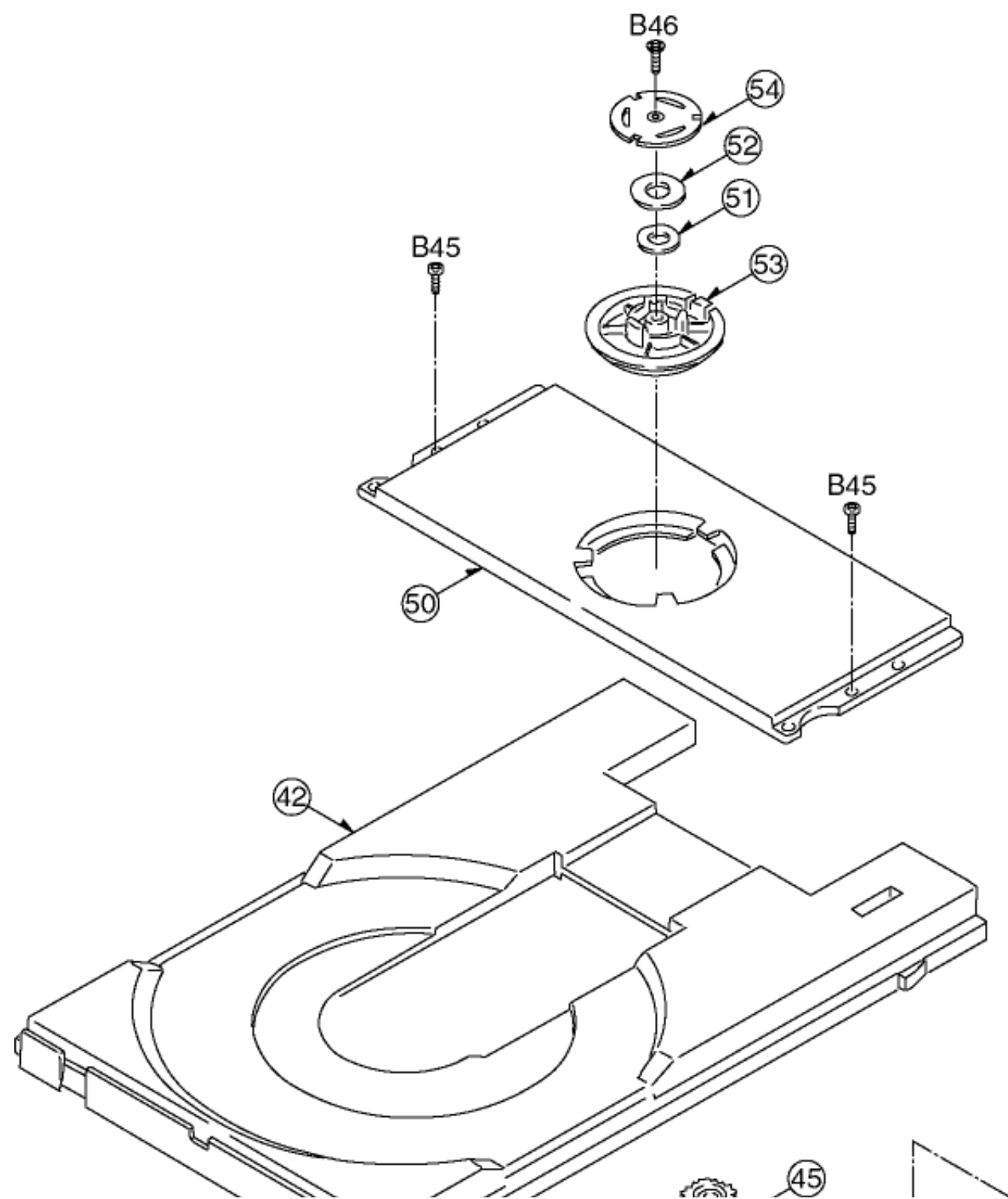


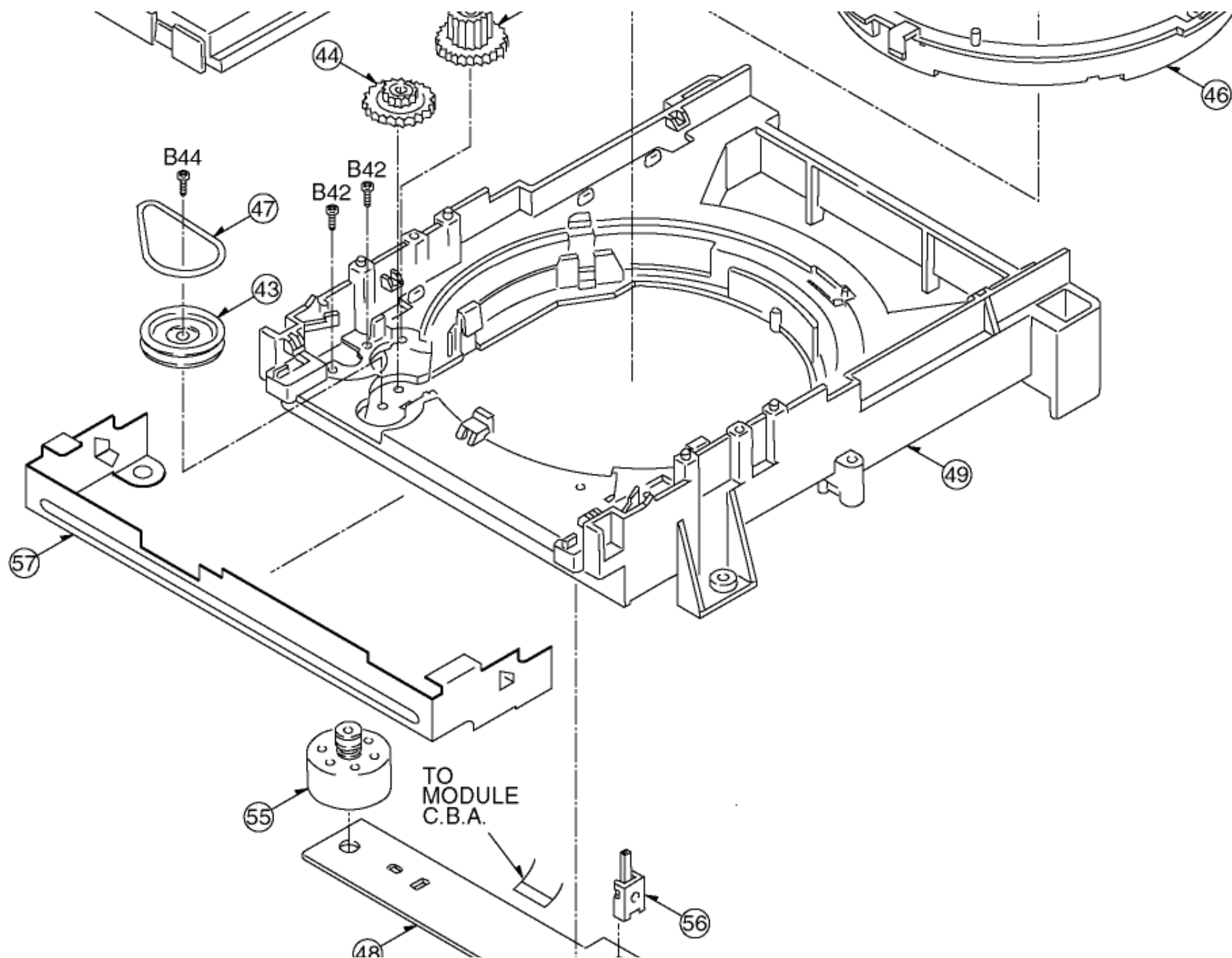
# 18.2 Loading Mechanism Section Exploded View


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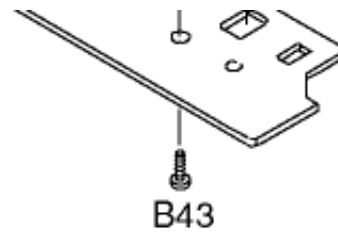


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LOADING MOTOR C.B.A. 

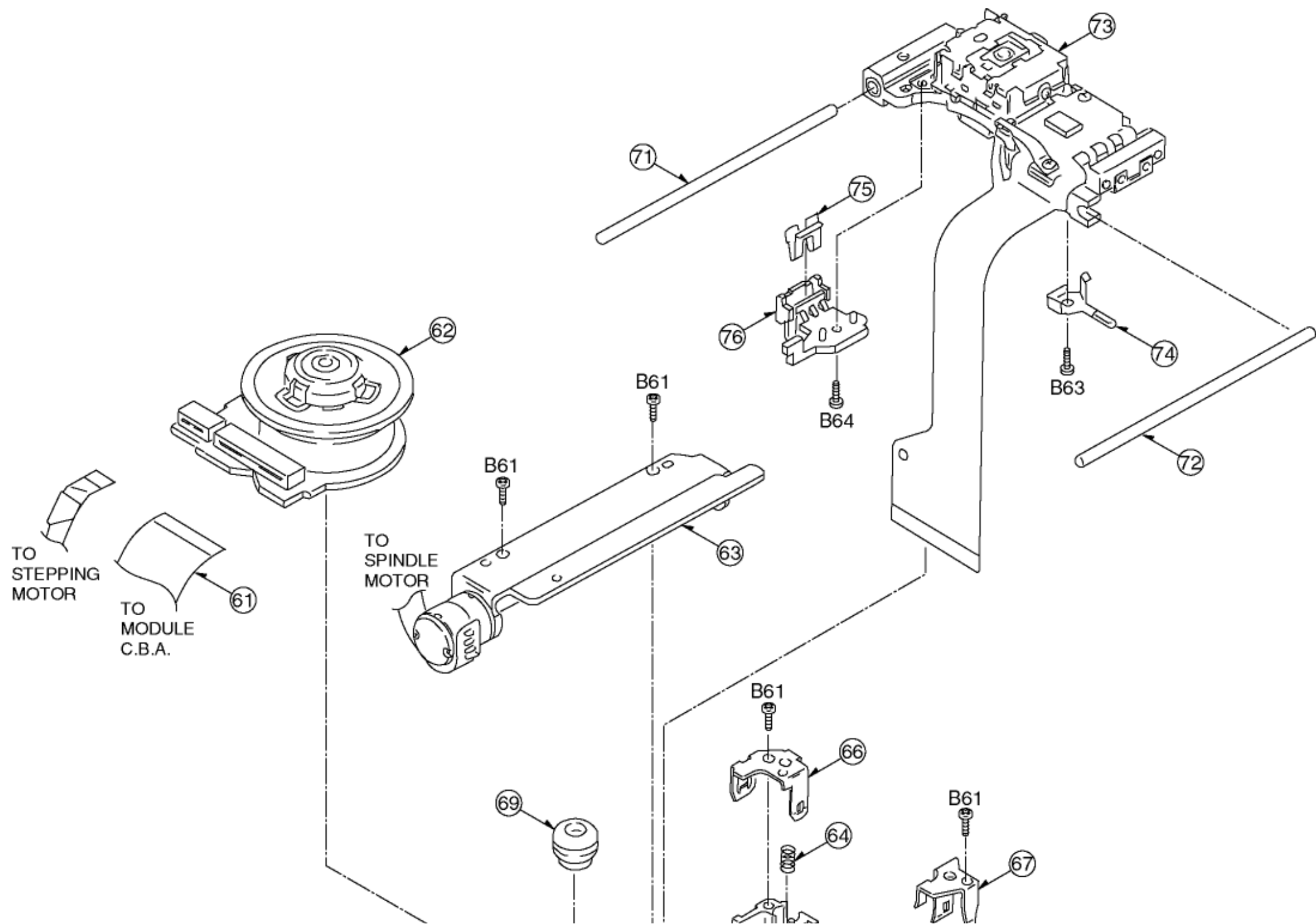


# 18.3 Traverse Section Exploded View

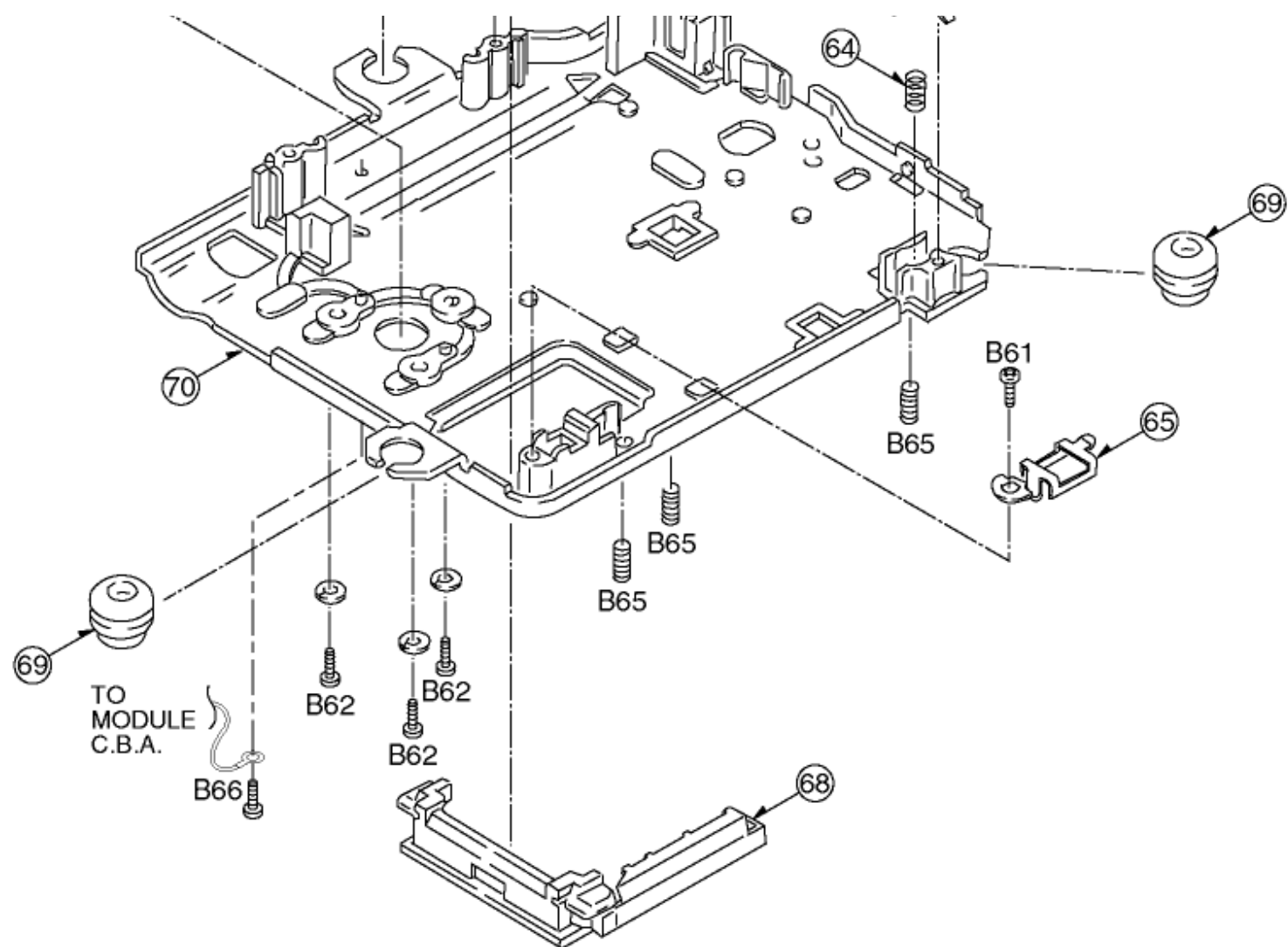
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[TOP](#) [PREVIOUS](#) [NEXT](#)





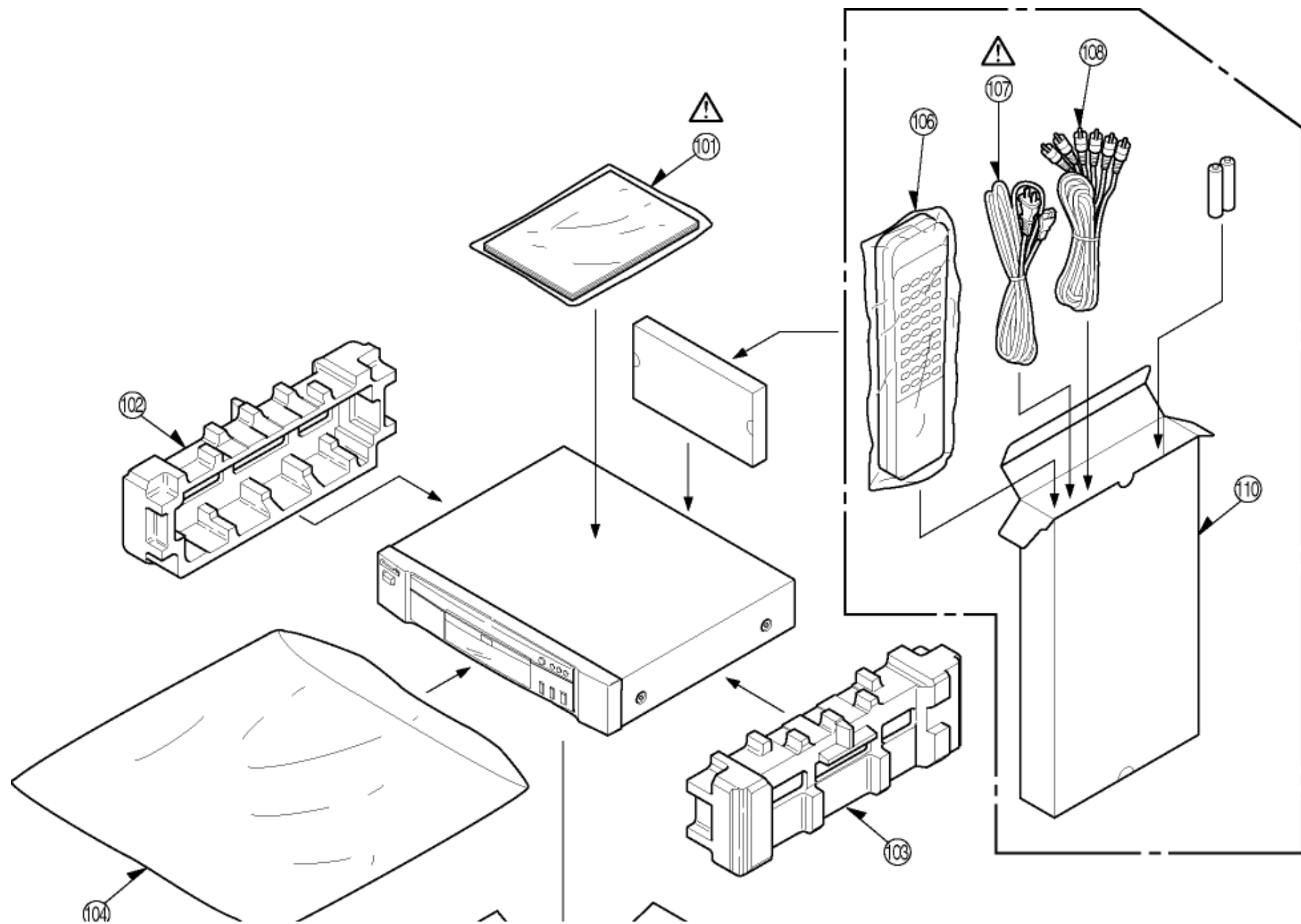


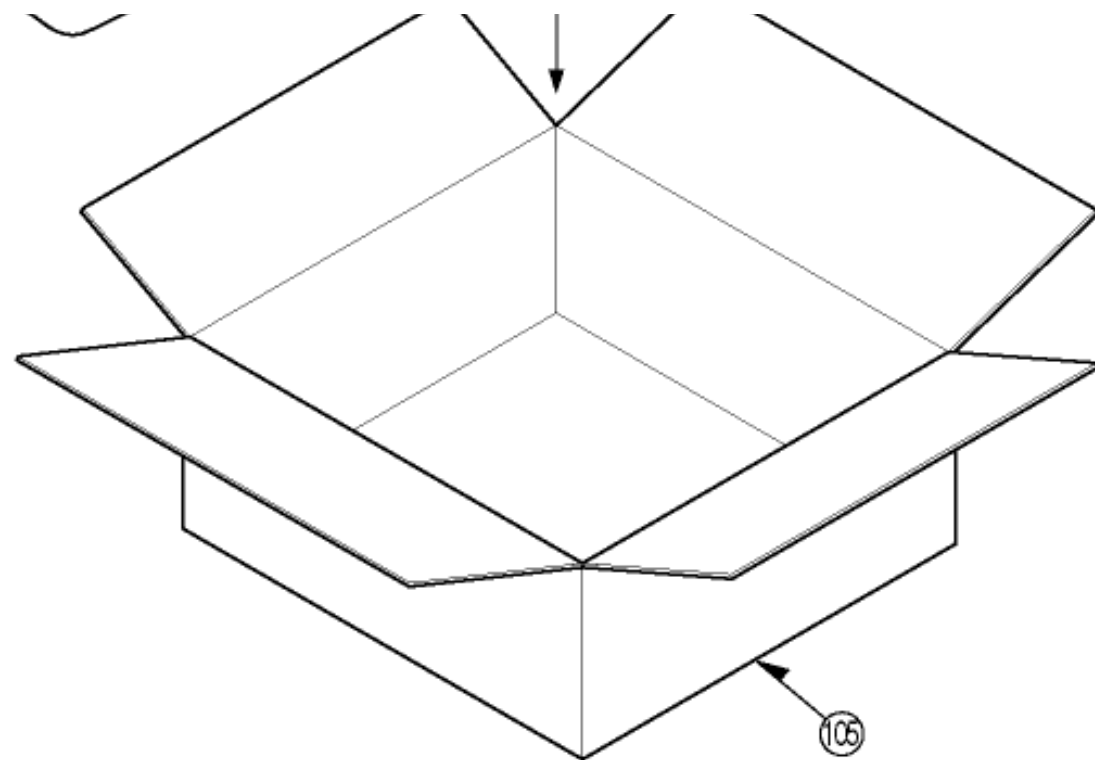
# 18.4 Packing& Accessories Section Exploded View

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# 19 REPLACEMENT PARTS LIST

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Note: 1. Be sure to make your orders of replacement parts according to this list.  
2. IMPORTANT SAFETY NOTICE  
Components identified with the mark  $\Delta$  have the special characteristics for safety. When replacing any of these components, use only the same type.

[19.1 Casing Parts& Mechanism Section Parts List](#)

[19.2 Loading Mechanism Section Parts List](#)

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[19.5 Electrical Replacement Parts List](#)

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# 19.1 Casing Parts& Mechanism Section

## Parts List

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	Ref. No.	Part No.	Part Name& Description	Pcs	Remarks
	<a href="#">1(1)</a>	VGM1583	TOP COVER	1	A120U/CA
	1(1)	VGM1559	TOP COVER	1	A115U, A112U
	<a href="#">2(1)</a>	VYK5504	LEG	4	
	<a href="#">3(1)</a>	VEP91238A	POWER SUPPLY C.B.A.	1	(RTL)
	<a href="#">3-1(1)</a>	VSC4759	HEAT SINK	1	
	<a href="#">3-2(1)</a>	EYF52BC	FUSE HOLDER	2	
	<a href="#">4(1)</a>	VEP99136B	MOTHER C.B.A.	1	(RTL) A120U/CA
	4(1)	VEP99136D	MOTHER C.B.A.	1	(RTL) A115U, A112U
	<a href="#">5(1)</a>	VGU8132	POWER BUTTON	1	A120U/CA
	5(1)	VGU8133	POWER BUTTON	1	A115U, A112U
	<a href="#">6(1)</a>	VMA0B45	REAR PANEL	1	A120U/CA
	6(1)	VMA0B46	REAR PANEL	1	A115U
	6(1)	VMA0C30	REAR PANEL	1	A112U
	<a href="#">7(1)</a>	VMD3305	SPACER	1	
	<a href="#">9(1)</a>	VYF2553	TRAY TOP	1	
	<a href="#">18(1)</a>	VGL0812	HOLDER	1	
	<a href="#">20(1)</a>	VGU8098	OPERATION BUTTON	1	
	<a href="#">25(1)</a>	VKW2615	FRONT COVER	1	
	<a href="#">26(1)</a>	VYP7181	FRONT PANEL	1	A120U/CA
	26(1)	VYP7184	FRONT PANEL	1	A115U
	26(1)	VYP7319	FRONT PANEL	1	A112U
	<a href="#">28(1)</a>	VEP96556B	MODULE C.B.A.	1	(RTL) A120U/CA
	28(1)	VEP96556A	MODULE C.B.A.	1	(RTL)A115U, A112U
	<a href="#">29(1)</a>	VWJ1278	LOADING FFC	1	(FP2601-FP2511)
	<a href="#">31(1)</a>	VEK8737	POWER SW C.B.A.	1	(RTL)
	<a href="#">32(1)</a>	VWJ06C9170BB	6-PIN FLEXIBLE CABLE	1	(FP6411-FP4701)

	<a href="#">33(1)</a>	VEE0G61	EARTH WIRE	1	
	B1(1)	VHD1041	SCREW	4	
	B2(1)	VHD0690	SCREW	3	
	B3(1)	VHD0690	SCREW	8	
	B4(1)	XTV3+8G	SCREW	4	
	B6(1)	XYE3+EF12	SCREW	5	
	B7(1)	XYE3+EF20	SCREW	2	
	B8(1)	XYE3+EF25	SCREW	4	
	B11(1)	XTV3+10G	SCREW	2	

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# 19.2 Loading Mechanism Section Parts List

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Ref. No.	Part No.	Part Name& Description	Pcs	Remarks
<a href="#">41(2)</a>	VMD3270	INTERMEDIATE CHASSIS	1	
<a href="#">42(2)</a>	VMD3265	TRAY	1	
<a href="#">43(2)</a>	VDG1308	PULLEY GEAR	1	
<a href="#">44(2)</a>	VDG1309	DECELERATION GEAR	1	
<a href="#">45(2)</a>	VDG1310	DRIVE GEAR	1	
<a href="#">46(2)</a>	VDK0156	VERTICAL CAM	1	
<a href="#">47(2)</a>	VDV0373	BELT	1	
<a href="#">48(2)</a>	VEP90407A	LOADING C.B.A.	1	
<a href="#">49(2)</a>	VMD3266	LOADING BASE	1	
<a href="#">50(2)</a>	VMD3263	CLAMPER BASE	1	
<a href="#">51(2)</a>	JSM0048	MAGNET	1	
<a href="#">52(2)</a>	VMA9535	CLAMPER BACK YOKE	1	
<a href="#">53(2)</a>	VMD3264	CLAMPER	1	
<a href="#">54(2)</a>	VMA0B93	CLAMPER WEIGHT	1	
<a href="#">55(2)</a>	VEM0664	LOADING MOTOR UNIT	1	
<a href="#">56(2)</a>	VSH0170	DOUBLE SWITCH	1	
<a href="#">57(2)</a>	VMA0C12	SHIELD PLATE	1	
B41(2)	VHD1223	SCREW	3	
B42(2)	XQNQC17+3	SCREW	2	
B43(2)	XTV3+10G	SCREW	1	
B44(2)	XTW2+12T	SCREW	1	
B45(2)	XTV3+10G	SCREW	2	
B46(2)	XTS3+6J	SCREW	1	

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# 19.3 Traverse Section Parts List

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Ref. No.	Part No.	Part Name& Description	Pcs	Remarks
<a href="#">61(3)</a>	VWJ1277	SPINDLE FFC	1	(DISC MOTOR-FP2501)
<a href="#">62(3)</a>	VEM0665	SPINDLE MOTOR UNIT	1	
<a href="#">63(3)</a>	VEM0666	STEPPING MOTOR UNIT	1	
<a href="#">64(3)</a>	VMB3278	TILT SPRING	2	
<a href="#">65(3)</a>	VMC1487	SUB-SHAFT TILT SPRING	1	
<a href="#">66(3)</a>	VMC1488	SPRING HOLDER 1	1	
<a href="#">67(3)</a>	VMC1489	SPRING HOLDER 2	1	
<a href="#">68(3)</a>	VMD3261	FPC HOLDER	1	
<a href="#">69(3)</a>	VMG1166	FLOATING RUBBER	3	
<a href="#">70(3)</a>	VMK0474	TRAVERSE CHASSIS	1	
<a href="#">71(3)</a>	VMS6471	GUIDE SHAFT 1	1	
<a href="#">72(3)</a>	VMS6472	GUIDE SHAFT 2	1	
<a href="#">73(3)</a>	VED0402-1	OPTICAL PICK-UP	1	
<a href="#">74(3)</a>	VMC1491	SUB-SHAFT PRELOAD SPRING	1	
<a href="#">75(3)</a>	VMC1490	SCREW NUT	1	
<a href="#">76(3)</a>	VMD3260	NUT	1	
B61(3)	VHD1224	SCREW	5	
B62(3)	VHD1225	SCREW	3	
B63(3)	VHD1057	SCREW	1	
B64(3)	XQNQC17+3	SCREW	1	
B65(3)	XXE26C6FN	SCREW	3	
B66(3)	XSN26+4	SCREW	1	

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# 19.4 Packing& Accessories Section

## Parts List



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	Ref. No.	Part No.	Part Name& Description	Pcs	Remarks
	<a href="#">101(4)</a>	VQT7954	OPERATING INSTRUCTIONS	1	A120U
	101(4)	VQT8116	OPERATING INSTRUCTIONS	1	A120CA
	101(4)	VQT7955	OPERATING INSTRUCTIONS	1	A115U,A112U
	<a href="#">102(4)</a>	VPN5082	CUSHION (L)	1	
	<a href="#">103(4)</a>	VPN5083	CUSHION (R)	1	
	<a href="#">104(4)</a>	VPF0731	POLYETHYLENE BAG	1	
	<a href="#">105(4)</a>	VPG9842	PACKING CASE	1	A120U
	105(4)	VPG9875	PACKING CASE	1	A120CA
	105(4)	VPG9843	PACKING CASE	1	A115U
	105(4)	VPG9967	PACKING CASE	1	A112U
	<a href="#">106(4)</a>	VEQ2249	REMOTE CONTROL UNIT	1	
	<a href="#">107(4)</a>	VJA1094	AC CORD	1	A120U, A115U, A112U
	107(4)	VJA0663	AC CORD	1	A120CA
	<a href="#">108(4)</a>	VJA1062	A/V CORD	1	
	<a href="#">110(4)</a>	VPK1891Z	ACCESSORY CASE	1	

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# 19.5 Electrical Replacement Parts List

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Note: 1. Be sure to make your orders of replacement parts according to this list.  
2. IMPORTANT SAFETY NOTICE: Components identified with the mark  have the special characteristics for safety. When replacing any of those components, use only the same type.  
3. Unless otherwise specified,  
All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS (uF), P=µF.  
4. The P.C. Board units marked with  show below the main assembled parts.  
5. The marking (RTL) indicates the retention time is limited for this item.  
After the discontinuation of this assembly in production, it will no longer be available.

	Ref. No.	Part No.	Part Name& Description	Pcs	Remarks
		VEP99136B	MOTHER C.B.A.	1	DVD-A120U/CA
					(RTL)
		VEP99136D	MOTHER C.B.A.	1	DVD-A115U,A112U
					(RTL)
		VEP91238A	POWER SUPPLY C.B.A.	1	(RTL)
		VEP96556B	MODULE C.B.A.	1	DVD-A120U/CA
					(RTL)
		VEP96556A	MODULE C.B.A.	1	DVD-A115U,A112U
					(RTL)
		VEK8737	POWER SWITCH C.B.A.	1	(RTL)

		VEP90407A	LOADING C.B.A.	1	(RTL)
		VEP99136B	MOTHER C.B.A.	1	DVD-A120U/CA
					(RTL)
	C3500	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
	C3501	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
	C3502	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3504	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3505	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3506	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3511	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
	C3512	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3513	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3514	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3531	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
	C3532	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3533	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
	C3534	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
	C3535	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
	C3536	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3537	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
	C3538	ECA0JM102	E.CAPACITOR 6.3V 1000U	1	
	C3539	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
	C3540	ECA0JM102	E.CAPACITOR 6.3V 1000U	1	
	C3542	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
	C3549	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

C3550	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3551	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C3552	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3554	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
C3562	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3572	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3581	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C3582	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3583	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
C3584	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3585	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
C3586	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3587	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
C3588	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C4301	ECEA0JPZ470	E.CAPACITOR 6.3V 47U	1	
C4302	ECQB1H101JZ	C.CAPACITOR 50V 100U	1	
C4304	ECA1APX221	E.CAPACITOR 10V 220U	1	
C4305	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4311	ECEA0JPZ470	E.CAPACITOR 6.3V 47U	1	
C4312	ECQB1H101JZ	C.CAPACITOR 50V 100U	1	
C4314	ECA1APX221	E.CAPACITOR 10V 220U	1	
C4315	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4461	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4462	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4463	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4464	ECA1CAK470X	E.CAPACITOR 16V 47U	1	
C4465	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4466	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4467	ECA1CAK470X	E.CAPACITOR 16V 47U	1	
C4468	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4501	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4511	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4561	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4571	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	

	C4585	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4586	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4588	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4591	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
	C4592	ECEA1EKN100	E.CAPACITOR 25V 10U	1	
	C4701	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4702	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4751	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4752	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
	C4753	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4761	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
	C4763	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4764	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
	C4771	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C4772	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
	C4773	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
	C4774	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4781	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
	C4782	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4901	VCEA1CJC470	E.CAPACITOR 16V 47U	1	
	C4911	VCEA1EJC221	E.CAPACITOR 25V 220U	1	
	C4912	VCEA1CJC470	E.CAPACITOR 16V 47U	1	
	C6001	ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
	C6002	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6003	ECEA1HKA330	E.CAPACITOR 50V 33U	1	
	C6004	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6005	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
	C6006	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6011	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
	C6013	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6014	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6015	ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
	C6021	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C6041	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

	C6042	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C6043	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C6044	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6045	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	D4591	1SS355	DIODE	1	
	D4592	MA3047M	DIODE	1	
	D4593	1SS355	DIODE	1	
	D4594	MA152A	DIODE	1	
	D4595	MA152WA	DIODE	1	
	D4596	MA153A	DIODE	1	
	D4597	1SS355	DIODE	1	
	D4901	AK04WS	DIODE	1	
	D6001	AK04WS	DIODE	1	
	D6002	1SS355	DIODE	1	
	D6003	1SS355	DIODE	1	
	D6004	1SS355	DIODE	1	
	D6014	LN38GCPL	DIODE	1	
	DL6001	VSL0519	DISPLAY TUBE	1	
	FL3501	ELB4K163B	FILTER	1	
	FL3511	ELB4K164A	FILTER	1	
	FL3561	ELB4L182B	FILTER	1	
	FP6002	VJS3537B006G	CONNECTOR (FEMALE) 6P	1	
	IC3531	AN3581S	IC	1	
	IC3581	BA7660FS	IC	1	
	IC4306	NJM4580M	IC	1	
	IC4461	NJM4580M	IC	1	
	IC4751	TC7W08F	IC	1	
	IC4752	AHCT1G08DBV	IC	1	
	IC4781	T0TX178	IC	1	
	IC4901	PQ09DZ1U	IC	1	

	IC6001	MN1872423CE	IC	1	
	IC6002	S80840ANNPT2	IC	1	
	IC6003	PNA4611M02VT	IR RECEIVER UNIT	1	
	IC6004	AHCT1G08DBV	IC	1	
	IC6005	AHCT1G08DBV	IC	1	
	JK3541	VJJ0544	Y/C CONNECTOR 1	1	
	JK3591	VJJ0598	PIN JACK (3P)	1	
	JK4501	VJJ0644	RCA JACK (6P)	1	
	JK4771	VJJ0537	PIN JACK (1P)	1	
	K4591	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6001	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6006	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6010	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6021	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6022	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	L3501	ELESE220JA	INDUCTOR 22UH	1	
	L3531	ELESE220JA	INDUCTOR 22UH	1	
	L3532	ELESE220JA	INDUCTOR 22UH	1	
	L3551	VLQEL05S220J	COIL 22UH	1	
	L3581	ELESE220JA	INDUCTOR 22UH	1	
	L4761	ELJNDR10JF	COIL	1	
	L4781	VLQEL05S220J	COIL 22UH	1	
	L6001	ELESE101JA	INDUCTOR 100UH	1	
	L6002	ELESE221JA	INDUCTOR 220UH	1	
	LB3543	VLP0145	COIL	1	
	LB3544	VLP0145	COIL	1	
	LB3545	VLP0145	COIL	1	
	LB3546	VLP0145	COIL	1	
	LB3591	VLP0145	COIL	1	
	LB3592	VLP0145	COIL	1	
	LB3593	VLP0145	COIL	1	



	LB4501	VLP0145	COIL	1	
	LB4511	VLP0145	COIL	1	
	LB4561	VLP0145	COIL	1	
	LB4571	VLP0145	COIL	1	
	LB4771	VLF1148A121	CHIP BEAD	1	
	LB4772	VLF1148A121	CHIP BEAD	1	
	PP1101	VJP4223E018B	CONNECTOR (MALE) 18P	1	
	PP3201	VJP4284A022B	CONNECTOR (MALE) 22P	1	
	PP4201	VJP4284A022B	CONNECTOR (MALE) 22P	1	
	PR4911	VSF0015A10	FUSE	1	
	Q3501	2SB709A-R	TRANSISTOR	1	
	Q3502	2SD601A-R	TRANSISTOR	1	
	Q3503	2SB709A-R	TRANSISTOR	1	
	Q3511	2SB709A-R	TRANSISTOR	1	
	Q3512	2SD601A-R	TRANSISTOR	1	
	Q3513	2SB709A-R	TRANSISTOR	1	
	Q3561	2SD601A-R	TRANSISTOR	1	
	Q3571	2SD601A-R	TRANSISTOR	1	
	Q4501	2SD1328	TRANSISTOR	1	
	Q4511	2SD1328	TRANSISTOR	1	
	Q4561	2SD1328	TRANSISTOR	1	
	Q4571	2SD1328	TRANSISTOR	1	
	Q4901	2SB709A-R	TRANSISTOR	1	
	Q4911	2SB1434R	TRANSISTOR	1	
	Q4912	2SB1320A-R	TRANSISTOR	1	
	Q4913	2SD601A-R	TRANSISTOR	1	
	Q6009	2SD1996-S	TRANSISTOR	1	
	QR3581	UN2212	TRANSISTOR-RESISTOR	1	
	QR4591	UN2211	TRANSISTOR	1	
	QR4592	UN2115	TRANSISTOR	1	
	QR4593	UN2211	TRANSISTOR	1	

	QR4594	UN2111	TRANSISTOR	1	
	QR4595	UN2111	TRANSISTOR	1	
	QR6002	DTA123JK	TRANSISTOR	1	
	QR6004	UN2212	TRANSISTOR-RESISTOR	1	
	QR6008	UN2111	TRANSISTOR	1	
	R3501	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
	R3502	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R3503	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
	R3504	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3505	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3506	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
	R3507	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3508	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3511	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
	R3512	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
	R3514	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R3515	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R3516	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3517	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3518	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
	R3519	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3520	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3531	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3532	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3533	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3534	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
	R3543	ERJ6ENF71R5	M.RESISTOR CH 1/10W 71.5	1	
	R3544	ERJ6ENF71R5	M.RESISTOR CH 1/10W 71.5	1	
	R3545	ERJ6ENF75R0	M.RESISTOR CH 1/10W 75	1	
	R3546	ERJ6ENF75R0	M.RESISTOR CH 1/10W 75	1	
	R3555	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	R3556	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
	R3557	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	

	R3561	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
	R3562	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
	R3563	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
	R3564	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R3565	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	R3566	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	R3571	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
	R3572	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
	R3573	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
	R3574	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R3575	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	R3576	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	R3581	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3582	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
	R3583	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3591	ERJ6ENF71R5	M.RESISTOR CH 1/10W 71.5	1	
	R3592	ERJ6ENF75R0	M.RESISTOR CH 1/10W 75	1	
	R3593	ERJ6ENF75R0	M.RESISTOR CH 1/10W 75	1	
	R4301	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
	R4302	ERJ6RBD103	M.RESISTOR CH 1/10W 10K	1	
	R4303	ERJ6RBD203	M.RESISTOR CH 1/10W 20K	1	
	R4311	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
	R4312	ERJ6RBD103	M.RESISTOR CH 1/10W 10K	1	
	R4313	ERJ6RBD203	M.RESISTOR CH 1/10W 20K	1	
	R4461	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4462	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4463	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4464	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R4465	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4466	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4467	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4468	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R4481	ERD25TVJ220	C.RESISTOR 1/4W 22	1	
	R4482	ERD25TVJ220	C.RESISTOR 1/4W 22	1	

	R4501	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4502	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R4503	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4511	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4512	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R4513	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4561	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4562	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R4563	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4571	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4572	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R4573	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4591	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R4592	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
	R4593	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	R4594	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4595	ERJ8GEYJ102	M.RESISTOR CH 1/8W 1K	1	
	R4596	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R4597	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R4598	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R4599	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4761	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
	R4771	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
	R4901	ERJ6RBD822	M.RESISTOR CH 1/10W 8.2K	1	
	R4902	ERJ6RBD152	M.RESISTOR CH 1/10W 1.5K	1	
	R4903	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
	R4911	ERJ6RBD822	M.RESISTOR CH 1/10W 8.2K	1	
	R4912	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	R4913	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6003	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6004	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6005	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6006	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6007	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	

	R6008	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6009	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6010	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6011	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6015	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6019	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R6023	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R6029	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6030	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6031	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6032	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6033	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6034	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6035	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R6037	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6038	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6039	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6041	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6042	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6043	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6044	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R6045	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R6046	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
	R6047	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
	R6049	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R6050	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R6052	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R6053	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R6064	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6065	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	S3581	ESD177211	SWITCH	1	
	S6001	EVQ11G07K	SWITCH	1	
	S6002	EVQ11G07K	SWITCH	1	


	S6003	EVQ11G07K	SWITCH	1	
	S6004	EVQ11G07K	SWITCH	1	
	S6005	EVQ11G07K	SWITCH	1	
	S6006	EVQ11G07K	SWITCH	1	
	S6007	EVQ11G07K	SWITCH	1	
	T4761	VLQ0790	TRANSFORMER	1	
	VR3501	EVNCYAA03B13	TRIMMER POTENTIOMETER	1	
	VR3511	EVNCYAA03B13	TRIMMER POTENTIOMETER	1	
	X6001	EF0EC8004A4	CERAMIC OSCILLATOR	1	
	ZA3501	VJR0978	EARTH ANGLE	1	
	ZA4201	VJR0978	EARTH ANGLE	1	
	ZA4751	VJR0978	EARTH ANGLE	1	
	ZA4752	VMC1446	EARTH SPRING	1	
	ZA6001	VJR0978	EARTH ANGLE	1	
			MISCELLANEOUS		
		VYQ1654	FL HOLDER UNIT	1	
		VEP99136D	MOTHER C.B.A.	1	DVD-A115U,A112U
					(RTL)
	C3500	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
	C3501	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
	C3502	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3504	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3505	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3506	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3511	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
	C3512	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

	C3513	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3514	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3531	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
	C3532	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3533	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
	C3534	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
	C3535	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
	C3536	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3537	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
	C3538	ECA0JM102	E.CAPACITOR 6.3V 1000U	1	
	C3539	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
	C3540	ECA0JM102	E.CAPACITOR 6.3V 1000U	1	
	C3542	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
	C3549	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3550	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C3554	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
	C4301	ECEA0JPZ470	E.CAPACITOR 6.3V 47U	1	
	C4302	ECHR1H101JZ	C.CAPACITOR 50V 100U	1	
	C4304	ECA1APX221	E.CAPACITOR 10V 220U	1	
	C4305	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C4311	ECEA0JPZ470	E.CAPACITOR 6.3V 47U	1	
	C4312	ECHR1H101JZ	C.CAPACITOR 50V 100U	1	
	C4314	ECA1APX221	E.CAPACITOR 10V 220U	1	
	C4315	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C4461	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
	C4462	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
	C4463	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4464	ECA1CAK470X	E.CAPACITOR 16V 47U	1	
	C4465	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
	C4466	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
	C4467	ECA1CAK470X	E.CAPACITOR 16V 47U	1	
	C4468	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4501	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
	C4511	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	

	C4585	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4586	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4588	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4591	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
	C4592	ECEA1EKN100	E.CAPACITOR 25V 10U	1	
	C4701	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4702	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4751	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4752	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
	C4753	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4781	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
	C4782	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C4901	VCEA1CJC470	E.CAPACITOR 16V 47U	1	
	C4911	VCEA1EJC221	E.CAPACITOR 25V 220U	1	
	C4912	VCEA1CJC470	E.CAPACITOR 16V 47U	1	
	C6001	ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
	C6002	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6003	ECEA1HKA330	E.CAPACITOR 50V 33U	1	
	C6004	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6005	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
	C6006	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6011	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
	C6013	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6014	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6015	ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
	C6021	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C6041	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C6042	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C6043	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
	C6044	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	C6045	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
	D4591	1SS355	DIODE	1	
	D4592	MA3047M	DIODE	1	




	D4593	1SS355	DIODE	1	
	D4594	MA152A	DIODE	1	
	D4595	MA152WA	DIODE	1	
	D4596	MA153A	DIODE	1	
	D4597	1SS355	DIODE	1	
	D4901	AK04WS	DIODE	1	
	D6001	AK04WS	DIODE	1	
	D6002	1SS355	DIODE	1	
	D6003	1SS355	DIODE	1	
	D6004	1SS355	DIODE	1	
	D6014	LN38GCPL	DIODE	1	
	DL6001	VSL0519	DISPLAY TUBE	1	
	FL3501	ELB4K163B	FILTER	1	
	FL3511	ELB4K164A	FILTER	1	
	FP6002	VJS3537B006G	CONNECTOR (FEMALE) 6P	1	
	IC3531	AN3581S	IC	1	
	IC4306	NJM4580M	IC	1	
	IC4461	NJM4580M	IC	1	
	IC4752	AHCT1G08DBV	IC	1	
	IC4781	T0TX178	IC	1	
	IC4901	PQ09DZ1U	IC	1	
	IC6001	MN1872423CE	IC	1	
	IC6002	S80840ANNPT2	IC	1	
	IC6003	PNA4611M02VT	IR RECEIVER UNIT	1	
	IC6004	AHCT1G08DBV	IC	1	
	IC6005	AHCT1G08DBV	IC	1	
	JK3541	VJJ0544	Y/C CONNECTOR 1	1	
	JK4501	VJJ0539	PIN JACK (3P)	1	
	K4591	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	



	K6001	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6006	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6011	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6021	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	K6022	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	L3501	ELESE220JA	INDUCTOR 22UH	1	
	"L3531	32"	ELESE220JA	INDUCTOR 22UH	1
	L4781	VLQEL05S220J	COIL 22UH	1	
	L6001	ELESE101JA	INDUCTOR 100UH	1	
	L6002	ELESE221JA	INDUCTOR 220UH	1	
	LB3543	VLP0145	COIL	1	
	LB3544	VLP0145	COIL	1	
	LB3546	VLP0145	COIL	1	
	LB4501	VLP0145	COIL	1	
	LB4511	VLP0145	COIL	1	
	PP1101	VJP4223E018B	CONNECTOR (MALE) 18P	1	
	PP3201	VJP4284A022B	CONNECTOR (MALE) 22P	1	
	PP4201	VJP4284A022B	CONNECTOR (MALE) 22P	1	
	PR4911	VSF0015A10	FUSE	1	
	Q3501	2SB709A-R	TRANSISTOR	1	
	Q3502	2SD601A-R	TRANSISTOR	1	
	Q3503	2SB709A-R	TRANSISTOR	1	
	Q3511	2SB709A-R	TRANSISTOR	1	
	Q3512	2SD601A-R	TRANSISTOR	1	
	Q3513	2SB709A-R	TRANSISTOR	1	
	Q4501	2SD1328	TRANSISTOR	1	
	Q4511	2SD1328	TRANSISTOR	1	
	Q4901	2SB709A-R	TRANSISTOR	1	
	Q4911	2SB1434R	TRANSISTOR	1	
	Q4912	2SB1320A-R	TRANSISTOR	1	

	Q4913	2SD601A-R	TRANSISTOR	1	
	Q6009	2SD1996-S	TRANSISTOR	1	
	QR4591	UN2211	TRANSISTOR	1	
	QR4592	UN2115	TRANSISTOR	1	
	QR4593	UN2211	TRANSISTOR	1	
	QR4594	UN2111	TRANSISTOR	1	
	QR4595	UN2111	TRANSISTOR	1	
	QR6002	DTA123JK	TRANSISTOR	1	
	QR6004	UN2212	TRANSISTOR-RESISTOR	1	
	QR6008	UN2111	TRANSISTOR	1	
	R3501	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
	R3502	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R3503	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
	R3504	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3505	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3506	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
	R3507	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3508	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3511	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
	R3512	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
	R3514	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R3515	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R3516	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3517	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3518	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	R3519	ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
	R3520	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
	R3531	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3532	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3533	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R3534	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
	R3543	ERJ6ENF71R5	M.RESISTOR CH 1/10W 71.5	1	
	R3544	ERJ6ENF71R5	M.RESISTOR CH 1/10W 71.5	1	

	R3546	ERJ6ENF75R0	M.RESISTOR CH 1/10W 75	1	
	R3555	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
	R3556	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
	R3557	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
	R3581	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R4301	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
	R4302	ERJ6RBD103	M.RESISTOR CH 1/10W 10K	1	
	R4303	ERJ6RBD203	M.RESISTOR CH 1/10W 20K	1	
	R4311	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
	R4312	ERJ6RBD103	M.RESISTOR CH 1/10W 10K	1	
	R4313	ERJ6RBD203	M.RESISTOR CH 1/10W 20K	1	
	R4461	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4462	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4463	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4464	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R4465	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4466	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4467	ERJ6GMYJ752	M.RESISTOR CH 1/10W 7.5K	1	
	R4468	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R4481	ERD25TVJ220	C.RESISTOR 1/4W 22	1	
	R4482	ERD25TVJ220	C.RESISTOR 1/4W 22	1	
	R4501	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4502	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R4503	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4511	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4512	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R4513	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R4591	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R4592	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
	R4593	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	R4594	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4595	ERJ8GEYJ102	M.RESISTOR CH 1/8W 1K	1	
	R4596	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R4597	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	

	R4598	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
	R4599	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R4901	ERJ6RBD822	M.RESISTOR CH 1/10W 8.2K	1	
	R4902	ERJ6RBD152	M.RESISTOR CH 1/10W 1.5K	1	
	R4903	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
	R4911	ERJ6RBD822	M.RESISTOR CH 1/10W 8.2K	1	
	R4912	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	R4913	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6003	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6004	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6005	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6006	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6007	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6008	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6009	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6010	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6011	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6015	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6019	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R6023	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R6029	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6030	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6031	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6032	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6033	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
	R6035	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
	R6037	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6038	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6039	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6041	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6042	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6043	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
	R6044	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R6045	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	


	R6046	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
	R6047	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
	R6049	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R6050	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R6052	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
	R6053	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
	R6064	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
	R6065	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
	S6001	EVQ11G07K	SWITCH	1	
	S6002	EVQ11G07K	SWITCH	1	
	S6003	EVQ11G07K	SWITCH	1	
	S6004	EVQ11G07K	SWITCH	1	
	S6005	EVQ11G07K	SWITCH	1	
	S6006	EVQ11G07K	SWITCH	1	
	S6007	EVQ11G07K	SWITCH	1	
	VR3501	EVNCYAA03B13	TRIMMER POTENTIOMETER	1	
	VR3511	EVNCYAA03B13	TRIMMER POTENTIOMETER	1	
	X6001	EF0EC8004A4	CERAMIC OSCILLATOR	1	
	ZA3501	VJR0978	EARTH ANGLE	1	
	ZA4201	VJR0978	EARTH ANGLE	1	
	ZA4751	VJR0978	EARTH ANGLE	1	
	ZA6001	VJR0978	EARTH ANGLE	1	
			MISCELLANEOUS		
		VYQ1654	FL HOLDER UNIT	1	
		VEP91238A	POWER SUPPLY C.B.A.	1	(RTL)

	C1003	VCF0183M683	METALLIZED FILM CAPACITOR	1	
	C1005	VCK0299E102	CERAMIC CAPACITOR	1	
	C1008	VCK0299E102	CERAMIC CAPACITOR	1	
	C1010	VCK0299E222	CERAMIC CAPACITOR	1	
	C1011	VCF0183M683	METALLIZED FILM CAPACITOR	1	
	C1019	ECA2EGE101	E.CAPACITOR 250V 100U	1	
	C1021	ECKD2H103PU	C.CAPACITOR 500V 0.01U	1	
	C1022	ECCZ3A121KGE	C.CAPACITOR 1KV 120P	1	
	C1031	VCEA1VJC470	E.CAPACITOR 35V 47U	1	
	C1041	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
	C1052	ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
	C1053	VCEA0JJC331	E.CAPACITOR 6.3V 330U	1	
	C1101	ECQV1H104JL	P.CAPACITOR 50V 0.1U	1	
	C1111	VCEA1AJH182	C.CAPACITOR 10V 1800U	1	
	C1112	VCEA1AJH182	C.CAPACITOR 10V 1800U	1	
	C1114	VCEA1AJC222	C.CAPACITOR 10V 2200U	1	
	C1115	ECFR1E104ZF	C.CAPACITOR 25V 0.1U	1	
	C1116	VCEA1AJC221	E.CAPACITOR 10V 220U	1	
	C1117	ECA1APX221	E.CAPACITOR 10V 220U	1	
	C1121	ECA0JM102	E.CAPACITOR 6.3V 1000U	1	
	C1131	VCEA1VJH151	E.CAPACITOR 35V 150U	1	
	C1133	VCEA1EJC330	E.CAPACITOR 25V 33U	1	
	C1141	VCEA1VJH151	E.CAPACITOR 35V 150U	1	
	C1143	VCEA1EJC330	E.CAPACITOR 25V 33U	1	
	C1151	VCEA1EJH271	E.CAPACITOR 25V 270U	1	
	C1153	VCEA1EJC221	E.CAPACITOR 25V 220U	1	
	C1154	VCEA1CJC221	E.CAPACITOR 16V 220U	1	
	C1161	VCEA1HJH820	E.CAPACITOR 50V 82U	1	
	C1171	VCEA1AJH331	E.CAPACITOR 10V 330U	1	
	D1001	ENC221D5ATRB	RF CONVERTER	1	
	D1002	ENC471D5ATUB	RF CONVERTER	1	
	D1011	S1WBA80	DIODE	1	
	D1021	AP01C	DIODE	1	

	D1022	RD100E	ZENER DIODE	1	
	D1031	AU01Z	DIODE	1	
	D1032	MA7300B	DIODE	1	
	D1041	MA165	DIODE	1	
	D1042	MA165	DIODE	1	
	D1051	MA700	DIODE	1	
	D1052	MA4200H	DIODE	1	
	D1111	MA7D49	DIODE	1	
	D1121	11ES1	DIODE	1	
	D1131	11EQS06	DIODE	1	
	D1141	11EQS06	DIODE	1	
	D1151	11EQS06	DIODE	1	
	D1152	11EQS06	DIODE	1	
	D1161	AU01Z	DIODE	1	
	D1162	MA4030M	DIODE	1	
	D1171	AK04	DIODE	1	
⚠	DZ1001	VSQ1003	SURGE ABSORBER 2.7KV	1	
⚠	F1001	VSF0248C16	FUSE	1	
	IC1021	STRM6559LF14	IC	1	
	IC1101	UPC1093J	IC	1	
	IC1121	PQ3RD13	IC	1	
	IC1151	SI-3090FLF11	IC	1	
⚠	L1001	ELF15N005A	LINE FILTER	1	
⚠	L1002	ELF15N005A	LINE FILTER	1	
	L1111	VLQ0611K100	COIL 10UH	1	
	L1112	ELELN100KA	INDUCTOR 10UH	1	
	L1131	VLQEL05S330K	COIL 33UH	1	
	L1141	VLQEL05S330K	COIL 33UH	1	
	L1151	VLQ0611K220	COIL 22UH	1	
	LB1021	VLP0083	COIL	1	



	LB1022	VLP0083	COIL	1	
	LB1024	VLP0056	COIL	1	
	P1001	VJS2986	CONNECTOR (FEMALE)	1	
⚠	PR1161	VSF0015A025	IC PROTECTOR	1	
⚠	PR1171	VSF0015A10	FUSE	1	
	PS1101	VJS4223A018T	CONNECTOR (FEMALE) 18P	1	
⚠	Q1041	PS2501-1H	PHOTO COUPLER	1	
	Q1111	2SJ525	TRANSISTOR	1	
	QR1111	UN4213	TRANSISTOR	1	
⚠	R1001	ERC12UGK685	S.RESISTOR 1/2W 6.8M	1	
	R1021	ERG1SJ393	M.RESISTOR 1W 39K	1	
	R1023	ERX1SJR82	M.RESISTOR 1W 0.82	1	
	R1024	ERDS2FJ471	C.RESISTOR 1/4W 470	1	
	R1025	ERDS2FJ471	C.RESISTOR 1/4W 470	1	
	R1031	ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
	R1032	ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
	R1033	ERG12SJ100	M.RESISTOR 1/2W 10	1	
	R1041	ERDS2FJ182	C.RESISTOR 1/4W 1.8K	1	
	R1051	ERDS2FJ152	C.RESISTOR 1/4W 1.5K	1	
	R1052	ERDS2FJ101	C.RESISTOR 1/4W 100	1	
	R1053	ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
	R1054	ERDS2FJ103	C.RESISTOR 1/4W 10K	1	
	R1055	ERDS1TJ395	C.RESISTOR 1/2W 3.9M	1	
	R1056	ERDS1TJ475	C.RESISTOR 1/2W 4.7M	1	
	R1101	ER0S2CKF75R0	M.RESISTOR 1/4W 75	1	
	R1102	ER0S2CKF1201	M.RESISTOR 1/4W 1.2K	1	
	R1103	ER0S2CKF1201	M.RESISTOR 1/4W 1.2K	1	
	R1104	ERDS2TJ561	C.RESISTOR 1/4W 560	1	
	R1105	ERDS2TJ271	C.RESISTOR 1/4W 270	1	

	R1106	ERDS2TJ202	C.RESISTOR 1/4W 2K	1	
	R1111	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
	R1112	ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
	R1161	ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
	R1181	ERDS2TJ101	C.RESISTOR 1/4W 100	1	
	T1021	ETE28K119AZ	TRANSFORMER	1	
	ZA1001	EYF52BC	FUSE HOLDER	1	
	ZA1002	EYF52BC	FUSE HOLDER	1	
	ZA1111	VJR0978	EARTH ANGLE	1	
	ZA1112	VJR0978	EARTH ANGLE	1	
	ZA1113	VJR0978	EARTH ANGLE	1	
	ZA1121	VSC4759	HEAT SINK	1	
		VEP96556B	MODULE C.B.A.	1	DVD-A120U/CA
					(RTL)
	C2001	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
	C2002	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2003	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2004	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2005	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2006	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C2007	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2008	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2009	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
	C2010	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2012	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
	C2015	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
	C2016	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2019	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2020	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2021	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	

	C2022	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
	C2023	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2024	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2025	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2026	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2027	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2028	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2029	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2030	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2031	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2032	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
	C2033	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
	C2034	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
	C2036	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
	C2037	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
	C2038	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
	C2040	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
	C2041	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2042	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2043	ECUX1C823KBV	C.CAPACITOR CH 16V 0.082U	1	
	C2044	ECUX1C823KBV	C.CAPACITOR CH 16V 0.082U	1	
	C2045	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2501	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C2502	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C2503	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C2504	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C2505	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C2506	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2507	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2508	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2509	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2510	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2511	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2512	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	

	C2514	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C2531	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3001	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C3002	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C3003	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3004	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3005	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3006	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3007	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3008	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3009	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3010	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3011	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3012	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3013	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3014	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3015	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3016	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3017	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3018	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3019	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3020	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3021	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3022	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3023	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3024	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3025	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3026	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3031	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C3032	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
	C3033	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
	C3034	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
	C3035	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3036	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	

	C3037	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3038	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3039	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3040	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3041	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3042	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3043	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3044	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
	C3045	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
	C3046	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3048	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
	C3051	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3052	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3053	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3054	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3055	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C3056	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3071	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C3072	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3073	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3201	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3202	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3211	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3221	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3231	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C3286	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C4201	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4202	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4203	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4204	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C4205	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4206	ECEV0JA102	E.CAPACITOR CH 6.3V 1000U	1	
	C4207	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C4208	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	

	C4242	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
	C4271	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4272	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
	C4273	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
	C4274	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
	C4275	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4276	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4277	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C4281	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C5201	EEVHB0J470	E.CAPACITOR 6.3V 47U	1	
	C5202	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C5203	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5204	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5205	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5206	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5207	EEVHB1C100	E.CAPACITOR 16V 10U	1	
	C5208	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
	C5209	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
	C5210	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5211	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
	C5212	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
	C5213	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5214	ECUX1A184KBV	C.CAPACITOR CH 10V 0.18U	1	
	C5215	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5216	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C5217	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	1	
	C5218	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5219	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5220	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
	C5221	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
	C5222	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5223	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
	C5224	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C5225	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	

C5226	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5227	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5228	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5229	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5230	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5231	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C5232	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C5233	ECUX1A334KBV	C.CAPACITOR CH 10V 0.33U	1	
C5234	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C5235	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C5236	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5237	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C5238	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	1	
C5239	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5240	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5241	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5242	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C5243	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5244	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5245	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5246	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5247	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5248	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5249	ECUX1H681JCV	C.CAPACITOR CH 50V 680P	1	
C5250	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5251	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5252	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C6201	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C6202	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C6203	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C6204	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C6205	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C6206	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C6207	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	

	C6251	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6252	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
	C6253	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C6254	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C6255	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C6301	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
	C6302	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C6303	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6304	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6501	EEVHB0J330	C.CAPACITOR 6.3V 33U	1	
	C6502	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6503	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6504	ECUX1A105ZFV	C.CAPACITOR CH 10V 1U	1	
	C6505	ECUX1A105ZFV	C.CAPACITOR CH 10V 1U	1	
	C6506	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C6507	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6508	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6511	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6512	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C6513	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6514	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
	C6521	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6522	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6541	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
	C6542	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
	C6544	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6564	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6565	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6584	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6585	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C6601	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7001	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C7002	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C7003	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	



	C7004	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7005	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7007	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7008	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7009	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7010	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7011	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7012	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7013	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7014	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7015	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7016	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7017	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7018	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7019	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7020	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
	C7301	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7302	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	D3001	MA8030-H	DIODE	1	
	D3002	MA111	DIODE	1	
	D3071	MA111	DIODE	1	
	D6311	MA728	DIODE	1	
	D6511	MA111	DIODE	1	
	FL6251	ELKE103FA	FILTER	1	
	FL6252	ELKE103FA	FILTER	1	
	FL6253	ELKE103FA	FILTER	1	
	FL6254	ELKE103FA	FILTER	1	
	FP2501	VJS4241B017W	CONNECTOR (FEMALE) 17P	1	
	FP2511	VJS4241B007W	CONNECTOR (FEMALE) 7P	1	
	FP5201	VJS3913A021	CONNECTOR (FEMALE) 21P	1	
	IC2001	MN67705EA	IC	1	

	IC2501	AN8485SB	IC	1	
	IC2511	BA5983FM	IC	1	
	IC3001	MN677511DE	IC	1	
	IC3051	MNX7160BT1	IC	1	
	IC3071	PQ1R33	IC	1	
	IC4201	PCM1716ET2	IC	1	
	IC4271	TC7ST08FU	IC	1	
	IC4272	TC7ST08FU	IC	1	
	IC4273	TC7ST08FU	IC	1	
	IC5201	RN5RZ20BA-TR	IC	1	
	IC5202	AN8706FHQ	IC	1	
	IC6201	MN102L25DFA	IC	1	
	IC6301	PST596JNR	IC	1	
	IC6302	JZS0649367C2	IC	1	
	IC6303	X25020S-2R7	IC	1	
	IC6501	BU2185F	IC	1	
	IC6511	PQ1R33	IC	1	
	IC6521	TC7WH157FUTL	IC	1	
	IC6522	TC7SHU04FU	IC	1	
	IC6542	AHC1GU04HDCK	IC	1	
	IC6562	AHC1GU04HDCK	IC	1	
	IC6563	TC7WH74FU	IC	1	
	IC6582	AHC1GU04HDCK	IC	1	
	IC6583	TC7WH74FU	IC	1	
	IC7001	MN103007BGA	IC	1	
	IC7301	TC7SH08FU	IC	1	
	IC7302	TC7SH32FU	IC	1	
	K3023	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K4201	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K4202	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K4203	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K5201	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K5202	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	

	K5203	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K5204	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K5205	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	L2001	ELJFA100KB	COIL	1	
	L2002	ELJFA100KB	COIL	1	
	L2501	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	L3001	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	L3281	ELJFA100KB	COIL	1	
	L4201	ELJFA220KB	COIL	1	
	L5201	ELJFA100KB	COIL	1	
	L5202	ELJFA100KB	COIL	1	
	L6201	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	L6501	ELJFA220KB	COIL	1	
	L6502	ELJFA220KB	COIL	1	
	L7001	ELJFA100KB	COIL	1	
	L7002	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	LB2501	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2502	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2503	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2504	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2505	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2506	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2507	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2508	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2509	JALBK2HS470T	COIL	1	
	LB2510	JALBK2HS470T	COIL	1	
	LB2511	JALBK2HS470T	COIL	1	
	LB2512	JALBK2HS470T	COIL	1	
	LB2513	JALBK2HS470T	COIL	1	
	LB2514	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2515	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2517	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2518	JALBK2HS470T	COIL	1	

	LB2519	JALBK2HS470T	COIL	1	
	LB2520	JALBK2HS470T	COIL	1	
	LB2521	JALBK2HS470T	COIL	1	
	LB3201	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB3202	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB3203	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB3204	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB3205	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4001	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4002	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4003	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4004	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4008	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4010	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4011	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4012	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4013	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4014	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4201	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	LB4271	VLP0157	COIL	1	
	LB5201	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	LB5202	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5203	JALBK2HS470T	COIL	1	
	LB5204	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5205	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5206	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5207	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5208	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5209	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5210	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5211	JALBK2HS470T	COIL	1	
	LB5212	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5213	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5214	VLP0323A601R	CHIP SOLID INDUCTOR	1	

	LB5215	JALBK2HS470T	COIL	1	
	LB5216	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5217	JALBK2HS470T	COIL	1	
	LB5218	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5219	JALBK2HS470T	COIL	1	
	LB6213	VLP0157	COIL	1	
	LB6501	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6502	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6504	VLP0157	COIL	1	
	LB6511	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6521	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6522	VLP0157	COIL	1	
	LB6523	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6525	VLP0157	COIL	1	
	LB6542	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6543	VLP0157	COIL	1	
	LB6562	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6563	VLP0157	COIL	1	
	LB6564	VLP0157	COIL	1	
	LB6565	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6582	VLP0157	COIL	1	
	LB6583	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6584	VLP0157	COIL	1	
	LB6585	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6586	VLP0157	COIL	1	
	PS3201	VJS4222A022B	CONNECTOR (FEMALE) 22P	1	
	PS4201	VJS4222A022B	CONNECTOR (FEMALE) 22P	1	
	PS6201	VJS2961A010	CONNECTOR (FEMALE) 10P	1	
	Q3201	2SB1218A-R	TRANSISTOR	1	
	Q3211	2SB1218A-R	TRANSISTOR	1	
	Q3221	2SB1218A-R	TRANSISTOR	1	
	Q3231	2SB1218A-R	TRANSISTOR	1	
	Q5201	2SB1115	TRANSISTOR	1	

	QR2001	UN5213	TRANSISTOR-RESISTOR	1	
	QR2501	XP1213	TRANSISTOR-RESISTOR	1	
	QR2502	XP1213	TRANSISTOR-RESISTOR	1	
	QR2503	UN5213	TRANSISTOR-RESISTOR	1	
	QR5201	UN5212	TRANSISTOR-RESISTOR	1	
	QR5202	UN5212	TRANSISTOR-RESISTOR	1	
	QR5203	UN5112	TRANSISTOR-RESISTOR	1	
	QR6311	UN5212	TRANSISTOR-RESISTOR	1	
	R2001	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2003	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R2004	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2005	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
	R2006	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
	R2008	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2009	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2010	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2012	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R2014	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R2016	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R2019	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
	R2024	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
	R2025	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R2026	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	R2027	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2028	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2029	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2030	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2031	ERJ3GEYF683	M.RESISTOR CH 1/16W 68K	1	
	R2032	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2033	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	R2034	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2035	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
	R2036	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	

	R2037	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
	R2038	ERJ3GEYF683	M.RESISTOR CH 1/16W 68K	1	
	R2039	ERJ3GEYF362	M.RESISTOR CH 1/16W 3.6K	1	
	R2501	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2502	ERJ3RBD183	M.RESISTOR CH 1/16W 18K	1	
	R2503	ERJ3RBD183	M.RESISTOR CH 1/16W 18K	1	
	R2504	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2505	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2506	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2507	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2508	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2509	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
	R2510	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
	R2511	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
	R2512	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
	R2513	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2515	ERJ14YKR39	M.RESISTOR CH 1/4W 0.39	1	
	R2516	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2517	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2518	ERJ3GEYJ243	M.RESISTOR CH 1/16W 24K	1	
	R2519	ERJ3GEYJ243	M.RESISTOR CH 1/16W 24K	1	
	R2520	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
	R2521	ERJ3RBD563	M.RESISTOR CH 1/16W 56K	1	
	R2522	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2523	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2524	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R3001	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
	R3002	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	R3003	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
	R3005	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R3006	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R3008	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R3009	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R3010	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	

	R3013	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R3031	ERJ3RBD752	M.RESISTOR CH 1/16W 7.5K	1	
	R3032	ERJ3RBD752	M.RESISTOR CH 1/16W 7.5K	1	
	R3033	ERJ3RBD752	M.RESISTOR CH 1/16W 7.5K	1	
	R3035	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
	R3036	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
	R3041	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3042	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3201	ERJ3GEYF750	M.RESISTOR CH 1/16W 75	1	
	R3202	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
	R3203	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3211	ERJ3GEYF750	M.RESISTOR CH 1/16W 75	1	
	R3212	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
	R3213	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3221	ERJ3RED750	M.RESISTOR CH 1/16W 75	1	
	R3222	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
	R3223	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3232	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
	R3233	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R4241	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
	R4272	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R4273	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R4274	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R4281	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
	R5201	ERJ12YJ270	M.RESISTOR CH 1/2W 27	1	
	R5202	ERJ3GEYJ2R2	M.RESISTOR CH 1/16W 2.2	1	
	R5203	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R5205	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R5206	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R5208	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
	R5209	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R5210	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
	R5211	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
	R5212	ERJ3GEYF123	M.RESISTOR CH 1/16W 12K	1	



	R5213	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
	R5214	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R5215	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
	R5216	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
	R5217	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R5218	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R5219	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
	R5220	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
	R5221	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
	R5222	ERJ3GEYF332	M.RESISTOR CH 1/16W 3.3K	1	
	R5223	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
	R5224	ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
	R5225	ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
	R5226	ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
	R6201	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6202	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6203	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6204	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6205	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
	R6206	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6208	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6301	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6302	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R6303	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R6501	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6502	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6542	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
	R6544	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
	R7001	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R7002	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R7003	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R7006	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	RA2001	EXBV4V473J	RESISTOR-RESISTOR	1	

	RA2002	EXBV8V331J	RESISTOR-RESISTOR	1	
	RA2501	EXBV4V103J	RESISTOR-RESISTOR	1	
	RA2502	EXBV4V103J	RESISTOR-RESISTOR	1	
	RA3001	EXBV8V473J	RESISTOR-RESISTOR	1	
	RA3002	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6201	EXBV4V103J	RESISTOR-RESISTOR	1	
	RA6202	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6203	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6204	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6205	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6206	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA7001	EXBV8V473J	RESISTOR-RESISTOR	1	
	RA7002	EXBV8V473J	RESISTOR-RESISTOR	1	
	VR3041	VRV0293B102T	VARIABLE RESISTOR	1	
	W3001	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	W6501	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
	X6501	VSX1044	CRYSTAL OSCILLATOR	1	
		VEP96556A	MODULE C.B.A.	1	DVD-A115U,A112U
					(RTL)
	C2001	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
	C2002	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2003	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2004	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2005	ECUX1C393KBV	C.CAPACITOR CH 16V 0.039U	1	
	C2006	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C2007	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2008	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2009	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
	C2010	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

	C2012	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
	C2015	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
	C2016	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2019	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2020	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2021	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2022	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
	C2023	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2024	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2025	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2026	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2027	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2028	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2029	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2030	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
	C2031	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2032	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
	C2033	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
	C2034	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
	C2036	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
	C2037	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
	C2038	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
	C2040	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
	C2041	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2042	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2043	ECUX1C823KBV	C.CAPACITOR CH 16V 0.082U	1	
	C2044	ECUX1C823KBV	C.CAPACITOR CH 16V 0.082U	1	
	C2045	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2501	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C2502	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C2503	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C2504	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C2505	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C2506	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

	C2507	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2508	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2509	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2510	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2511	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2512	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C2514	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C2531	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3001	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C3002	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C3003	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3004	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3005	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3006	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3007	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3008	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3009	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3010	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3011	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3012	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3013	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3014	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3015	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3016	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3017	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3018	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3019	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3020	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3021	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3022	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3023	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3024	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3025	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C3026	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

C3031	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
C3032	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C3033	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C3034	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C3035	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3036	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3037	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3038	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3039	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3040	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3041	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3042	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3043	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3044	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3045	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3046	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3048	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3051	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3052	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3053	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3054	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3055	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C3056	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3071	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C3072	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3073	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3201	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3202	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3211	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3286	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
C4201	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4202	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4203	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4204	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	

C4205	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C4206	ECEV0JA102	E.CAPACITOR CH 6.3V 1000U	1	
C4207	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C4208	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C4242	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4271	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C4272	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4273	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4274	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4275	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C4276	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C4277	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C4281	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5201	EEVHB0J470	E.CAPACITOR 6.3V 47U	1	
C5202	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C5203	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C524	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5205	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5206	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5207	EEVHB1C100	E.CAPACITOR 16V 10U	1	
C5208	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C5209	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5210	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5211	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C5212	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5213	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5214	ECUX1A184KBV	C.CAPACITOR CH 10V 0.18U	1	
C5215	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5216	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
C5217	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	1	
C5218	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5219	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5220	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C5221	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	

C5222	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5224	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5225	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5226	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5227	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5228	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5229	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5230	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5231	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C5232	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C5233	ECUX1A334KBV	C.CAPACITOR CH 10V 0.33U	1	
C5234	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C5235	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C5236	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5237	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C5238	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	1	
C5239	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5240	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5241	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5242	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C5243	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5244	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5245	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5246	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5247	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5248	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5249	ECUX1H681JCV	C.CAPACITOR CH 50V 680P	1	
C5250	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5251	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5252	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6201	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6202	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6203	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C6204	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	



	C6205	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6206	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6207	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6251	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6252	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
	C6253	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C6254	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
	C6255	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
	C6301	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
	C6302	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
	C6303	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6304	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6501	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
	C6502	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6503	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6504	ECUX1A105ZFB	C.CAPACITOR CH 10V 1U	1	
	C6505	ECUX1A105ZFB	C.CAPACITOR CH 10V 1U	1	
	C6506	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C6507	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6508	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6511	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6512	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
	C6513	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6514	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
	C6521	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6522	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6541	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
	C6542	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
	C6544	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6564	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6565	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6584	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6585	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	
	C6601	ECUX1C104ZFB	C.CAPACITOR CH 16V 0.1U	1	



	C7001	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C7002	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
	C7003	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7004	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7005	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7006	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7007	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7008	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7009	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7010	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7011	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7012	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7013	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7014	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7015	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7016	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7017	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7018	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7019	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7020	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
	C7301	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	C7302	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
	D3001	MA8030-H	DIODE	1	
	D3002	MA111	DIODE	1	
	D3071	MA111	DIODE	1	
	D6311	MA728	DIODE	1	
	D6511	MA111	DIODE	1	
	FL6251	ELKE103FA	FILTER	1	
	FL6252	ELKE103FA	FILTER	1	
	FL6253	ELKE103FA	FILTER	1	
	FL6254	ELKE103FA	FILTER	1	
	FP2501	VJS4241B017W	CONNECTOR (FEMALE) 17P	1	

	FP2511	VJS4241B007W	CONNECTOR (FEMALE) 7P	1	
	FP5201	VJS3913A021	CONNECTOR (FEMALE) 21P	1	
	IC2001	MN67705EA	IC	1	
	IC2501	AN8485SB	IC	1	
	IC2511	BA5983FM	IC	1	
	IC3001	MN677511DE	IC	1	
	IC3051	MNX7160BT1	IC	1	
	IC3071	PQ1R33	IC	1	
	IC4201	PCM1716ET2	IC	1	
	IC4271	TC7ST08FU	IC	1	
	IC4272	TC7ST08FU	IC	1	
	IC4273	TC7ST08FU	IC	1	
	IC5201	RN5RZ20BA-TR	IC	1	
	IC5202	AN8706FHQ	IC	1	
	IC6201	MN102L25DFA	IC	1	
	IC6301	PST596JNR	IC	1	
	IC6302	JZS0649367C2	IC	1	
	IC6303	X25020S-2R7	IC	1	
	IC6501	BU2185F	IC	1	
	IC6511	PQ1R33	IC	1	
	IC6521	TC7WH157FUTL	IC	1	
	IC6522	TC7SHU04FU	IC	1	
	IC6542	AHC1GU04HDCK	IC	1	
	IC6562	AHC1GU04HDCK	IC	1	
	IC6563	TC7WH74FU	IC	1	
	IC6582	AHC1GU04HDCK	IC	1	
	IC6583	TC7WH74FU	IC	1	
	IC7001	MN103007BGA	IC	1	
	IC7301	TC7SH08FU	IC	1	
	IC7302	TC7SH32FU	IC	1	
	K4201-03	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	K5201-05	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	

	L2001	ELJFA100KB	COIL	1	
	L2002	ELJFA100KB	COIL	1	
	L2501	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	L3001	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	L3281	ELJFA100KB	COIL	1	
	L4201	ELJFA220KB	COIL	1	
	L5201	ELJFA100KB	COIL	1	
	L5202	ELJFA100KB	COIL	1	
	L6201	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	L6501	ELJFA220KB	COIL	1	
	L6502	ELJFA220KB	COIL	1	
	L7001	ELJFA100KB	COIL	1	
	L7002	ERJ14Y0R00	M.RESISTOR CH 1/4W 0	1	
	LB2501	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2502	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2503	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2504	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2505	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2506	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2507	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2508	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2509	JALBK2HS470T	COIL	1	
	LB2510	JALBK2HS470T	COIL	1	
	LB2511	JALBK2HS470T	COIL	1	
	LB2512	JALBK2HS470T	COIL	1	
	LB2513	JALBK2HS470T	COIL	1	
	LB2514	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2515	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2517	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB2518	JALBK2HS470T	COIL	1	
	LB2519	JALBK2HS470T	COIL	1	
	LB2520	JALBK2HS470T	COIL	1	
	LB2521	JALBK2HS470T	COIL	1	

	LB3201	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB3202	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB3203	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4001	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4002	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4003	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4004	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4008	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4010	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4011	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4012	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4013	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4014	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB4201	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	LB4271	VLP0157	COIL	1	
	LB5201	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	LB5202	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5203	JALBK2HS470T	COIL	1	
	LB5204	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5205	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5206	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5207	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5208	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5209	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5210	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5211	JALBK2HS470T	COIL	1	
	LB5212	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5213	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5214	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5215	JALBK2HS470T	COIL	1	
	LB5216	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5217	JALBK2HS470T	COIL	1	
	LB5218	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB5219	JALBK2HS470T	COIL	1	

	LB6213	VLP0157	COIL	1	
	LB6501	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6502	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6504	VLP0157	COIL	1	
	LB6511	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6521	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6522	VLP0157	COIL	1	
	LB6523	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6525	VLP0157	COIL	1	
	LB6542	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6543	VLP0157	COIL	1	
	LB6562	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6563	VLP0157	COIL	1	
	LB6564	VLP0157	COIL	1	
	LB6565	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6582	VLP0157	COIL	1	
	LB6583	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6584	VLP0157	COIL	1	
	LB6585	VLP0323A601R	CHIP SOLID INDUCTOR	1	
	LB6586	VLP0157	COIL	1	
	PS3201	VJS4222A022B	CONNECTOR (FEMALE) 22P	1	
	PS4201	VJS4222A022B	CONNECTOR (FEMALE) 22P	1	
	PS6201	VJS2961A010	CONNECTOR (FEMALE) 10P	1	
	Q3201	2SB1218A-R	TRANSISTOR	1	
	Q3211	2SB1218A-R	TRANSISTOR	1	
	Q5201	2SB1115	TRANSISTOR	1	
	QR2001	UN5213	TRANSISTOR-RESISTOR	1	
	QR2501	XP1213	TRANSISTOR-RESISTOR	1	
	QR2502	XP1213	TRANSISTOR-RESISTOR	1	
	QR2503	UN5213	TRANSISTOR-RESISTOR	1	
	QR5201	UN5212	TRANSISTOR-RESISTOR	1	
	QR5202	UN5212	TRANSISTOR-RESISTOR	1	

	QR5203	UN5112	TRANSISTOR-RESISTOR	1	
	QR6311	UN5212	TRANSISTOR-RESISTOR	1	
	R2001	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2003	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R2004	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2005	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
	R2006	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
	R2008	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2009	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2010	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2012	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R2014	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R2016	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R2019	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
	R2020	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2021	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2022	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2024	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
	R2025	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R2026	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	R2027	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2028	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2029	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2030	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2031	ERJ3GEYF683	M.RESISTOR CH 1/16W 68K	1	
	R2032	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2033	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	R2034	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2035	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
	R2036	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
	R2037	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
	R2038	ERJ3GEYF683	M.RESISTOR CH 1/16W 68K	1	
	R2039	ERJ3GEYF362	M.RESISTOR CH 1/16W 3.6K	1	

	R2501	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R2502	ERJ3RBD183	M.RESISTOR CH 1/16W 18K	1	
	R2503	ERJ3RBD183	M.RESISTOR CH 1/16W 18K	1	
	R2504	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2505	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2506	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2507	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2508	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2509	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
	R2510	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
	R2511	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
	R2512	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
	R2513	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2515	ERJ14YKR39	M.RESISTOR CH 1/4W 0.39	1	
	R2516	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2517	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R2518	ERJ3GEYJ243	M.RESISTOR CH 1/16W 24K	1	
	R2519	ERJ3GEYJ243	M.RESISTOR CH 1/16W 24K	1	
	R2520	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
	R2521	ERJ3RBD563	M.RESISTOR CH 1/16W 56K	1	
	R2522	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2523	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R2524	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R3001	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
	R3002	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	R3003	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
	R3005	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R3006	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R3008	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R3009	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R3010	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R3013	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R3031	ERJ3RBD752	M.RESISTOR CH 1/16W 7.5K	1	
	R3032	ERJ3RBD752	M.RESISTOR CH 1/16W 7.5K	1	

	R3033	ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
	R3035	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
	R3036	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
	R3037	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
	R3038	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
	R3039	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3040	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3201	ERJ3GEYF750	M.RESISTOR CH 1/16W 75	1	
	R3202	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
	R3203	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3211	ERJ3GEYF750	M.RESISTOR CH 1/16W 75	1	
	R3212	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
	R3213	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R3221	ERJ3RED750	M.RESISTOR CH 1/16W 75	1	
	R4241	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
	R4272	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R4273	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R4274	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
	R4281	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
	R5201	ERJ12YJ270	M.RESISTOR CH 1/2W 27	1	
	R5202	ERJ3GEYJ2R2	M.RESISTOR CH 1/16W 2.2	1	
	R5203	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R5205	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R5206	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R5208	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
	R5209	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
	R5210	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
	R5211	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
	R5212	ERJ3GEYF123	M.RESISTOR CH 1/16W 12K	1	
	R5213	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
	R5214	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R5215	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
	R5216	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
	R5217	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	



	R5218	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R5219	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
	R5220	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
	R5221	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
	R5222	ERJ3GEYF332	M.RESISTOR CH 1/16W 3.3K	1	
	R5223	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
	R5224	ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
	R5225	ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
	R5226	ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
	R6201	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6202	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6203	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6204	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6205	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
	R6206	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6207	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
	R6208	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R6301	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6302	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R6303	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
	R6501	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6502	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
	R6542	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
	R6544	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
	R7001	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R7002	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
	R7003	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	R7006	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
	RA2001	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA2002	EXBV8V331J	RESISTOR-RESISTOR	1	
	RA2501	EXBV4V103J	RESISTOR-RESISTOR	1	
	RA2502	EXBV4V103J	RESISTOR-RESISTOR	1	
	RA3001	EXBV8V473J	RESISTOR-RESISTOR	1	

	RA3002	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6201	EXBV4V103J	RESISTOR-RESISTOR	1	
	RA6202	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6203	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6204	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6205	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA6206	EXBV4V473J	RESISTOR-RESISTOR	1	
	RA7001	EXBV8V473J	RESISTOR-RESISTOR	1	
	RA7002	EXBV8V473J	RESISTOR-RESISTOR	1	
	W3001	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
	W6501	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
	X6501	VSX1044	CRYSTAL OSCILLATOR	1	
		VEK8737	POWER SWITCH C.B.A.	1	(RTL)
	FP6411	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
	S6411	EVQQS307K	SWITCH	1	
		VEP90407A	LOADING C.B.A.	1	(RTL)
	FP2601	VJS4241B007W	CONNECTOR (FEMALE) 7P	1	

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